

STIC Search Report

EIC 1700

STIC Database Tracking Number: 114128

TO: Nikolas Uhlir
Location: REM 6A70
Art Unit : 1773
February 17, 2004

Case Serial Number: 09/740345

From: Michael Newell
Location: EIC 1700
REMSEN 4A30
Phone: 571/272-2538
MNewell@uspto.gov

Search Notes

SEARCH REQUEST FORM**Scientific and Technical Information Center**

Requester's Full Name: Nikolas Uhlig Examiner #: 79025 Date: 2/17/04
 Art Unit: _____ Phone Number 30 _____ Serial Number: _____
 Mail Box and Bldg/Room Location: _____ Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: See attached search request

Inventors (please provide full names): _____

Earliest Priority Filing Date: _____

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

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Searcher: <u>Mike Newell</u>	NA Sequence (#)	STN	<u>N/A</u> <u>171.12</u>
Searcher Phone #: <u>571-272-2538</u>	AA Sequence (#)	Dialog	_____
Searcher Location: <u>Rm 4A30</u>	Structure (#)	Questel/Orbit	_____
Date Searcher Picked Up: <u>2/17/04</u>	Bibliographic	Dr.Link	_____
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EIC17000

Questions about the scope or the results of the search? Contact **the EIC searcher or contact:**

**Kathleen Fuller, EIC 1700 Team Leader
571/272-2505 REMSEN 4B28**

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* *Example: 1713*
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 103 rejection
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114123

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Enter your Search Topic Information below:

This inquiry is primarily about traction or anti-slip coatings, but can be open to any coating having the characteristics cited below. Note that the viscosity is the least important limitation as I have a reference which shows that the viscosity of a polymer solution can be adjusted to a desired level based on the method by which the solution is to be coated.

Please search for the following:

A coating having a viscosity of 100,000 cp (centipoise) or less, preferably 10,000-100,000cp, more preferably 10,000-50,000, and most preferably 10,000-20,000cp, wherein the coating is composed of one or more of polyethylene, a derivative of polyethylene, polybutadiene, a derivative of butadiene, a copolymer of polyethylene and polybutadiene, silicone, polysulfide, polyurethane, modified epoxy, or modified acrylic. The coating must be formed to a thickness less than or equal to 10 microns, and must include a filler consisting of fine particles having an average particle diameter of 10 microns or less. The fine particles should be one or more of silicon oxide, aluminum oxide, cerium oxide, silicon carbide, or a particulate organic material.

SAC

RN → HCA
#10

Also, for a more context relevant search, please search for the above coating on the surface of a tire or on the sole of a shoe.

Special Instructions and Other Comments:

(For fastest service, let us know the best times to contact you, in case the searcher needs further clarification on your search.)

If you have questions please call me at 571 272 1517. I apologize for the short notice but this search needs to be completed by the middle of next week at the latest. Thanks!

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FILE 'HCAPLUS' ENTERED AT 13:49:12 ON 17 FEB 2004
E MUKAIDA M?/AU

L1 1 SEA "MUKAIDA MINORU"/AU

L2 67 SEA "MUKAIDA M"/AU

D SCAN L1

L3 68 SEA L1 OR L2

L4 15906 SEA ENERGY (W) CONSUMPTION

L5 0 SEA L4 AND L3

D L1 1 CBIB ABS HITSTR HITIND

SELECT L1 1 RN

FILE 'REGISTRY' ENTERED AT 13:52:28 ON 17 FEB 2004

L6 1 SEA 9010-98-4/BI

D STR RN CN

E SILICON DIOXIDE/CN

L7 1 SEA "SILICON DIOXIDE"/CN

E ALUMINUM OXIDE/CN

L8 1 SEA "ALUMINUM OXIDE"/CN

E CERIUM OXIDE/CN

L9 2 SEA "CERIUM OXIDE"/CN

D STR 1-2

E SILICON CARBIDE/CN

L10 1 SEA "SILICON CARBIDE"/CN

FILE 'HCAPLUS' ENTERED AT 14:07:15 ON 17 FEB 2004

L11 659215 SEA (SILICON (2A) (OXIDE OR DIOXIDE)) OR SILICA OR SIO2 OR
L7

L12 509468 SEA (ALUMINUM (2A) OXIDE?) OR ALUMINA? OR AL2O3 OR
CORUNDUM OR L8

L13 32179 SEA (CERIUM (2A) (OXIDE? OR DIOXIDE?)) OR CERIA OR
(CERIC (2A) OXIDE?) OR CEO2 OR L9

L14 105125 SEA (SILICON (2A) CARBIDE?) OR SIC OR L10

L15 457 SEA WALNUT(2A) (SHELL? OR NUTSHELL?)
 L16 1092466 SEA L11 OR L12 OR L13 OR L14 OR L15
 L17 1097238 SEA ABRASIV? OR ABRADE? OR ABRASION? OR TRACTION? OR
 ANTISLIP? OR ANTI(W)SLIP? OR GRIT? OR PARTICL? OR
 PARTICULAT?
 L18 3036 SEA ANTISLIP? OR ANTI(W)SLIP? OR ((PREVENT? OR INHIBIT?
 OR REDUC? OR HINDER? OR DECREAS? OR CONTROL?) (2A) (SLIP?))
 L19 445 SEA L16 AND L18
 L20 168 SEA L16 (5A) L18
 L21 35481 SEA TIRE? OR SHOE?
 L22 35 SEA L19 AND L21
 L23 1269429 SEA ?POLYETHYLENE? OR ?POLYBUTADIENE? OR ?SILICONE? OR
 ?POLYSULFIDE? OR ?POLYURETHANE? OR ?EPOXY? OR ?ACRYL?
 L24 331 SEA L16 AND TRACTION?
 L25 774 SEA L19 OR L24
 L26 228 SEA L25 (5A) L23
 L27 128 SEA L25 AND L21
 L28 93 SEA L27 NOT L22
 L29 104 SEA L27 AND ((1907-2000)/PY OR (1907-2000)/PRY)
 L30 39 SEA L29 AND L23
 L31 23 SEA L22 NOT L30
 L32 23 SEA L31 AND ((1907-2000)/PY OR (1907-2000)/PRY)
 L33 62 SEA L30 OR L32
 L34 1 SEA L33 AND THICKNESS?
 D SCAN
 L35 0 SEA L33 AND MICRON?
 L36 4 SEA L33 AND (PARTICL?(2A)SIZE?)
 D SCAN

FILE 'WPIX, JAPIO' ENTERED AT 14:40:16 ON 17 FEB 2004

L37 417522 SEA L16
 L38 57736 SEA L37 AND L23
 L39 227 SEA L38 AND (L18 OR TRACTION?)
 L40 57 SEA L39 AND L21
 L41 4 SEA L40 AND (COAT?)
 D SCAN
 L42 85 SEA L38 AND (NONSLIP? OR NON(W) SLIP?)
 L43 301 SEA L42 OR L39
 L44 61 SEA L43 AND L21
 L*** DEL 0 S L44 AND COAT
 L45 4 SEA L44 AND COAT?
 L46 61 SEA L44 AND PATENT/DT
 L47 57 SEA L46 NOT L41

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FILE COVERS 1907 - 17 Feb 2004 VOL 140 ISS 8
FILE LAST UPDATED: 16 Feb 2004 (20040216/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

FILE REGISTRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 16 FEB 2004 HIGHEST RN 651003-77-9
DICTIONARY FILE UPDATES: 16 FEB 2004 HIGHEST RN 651003-77-9

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Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

<http://www.cas.org/ONLINE/DBSS/registryss.html>

FILE WPIX

FILE LAST UPDATED: 13 FEB 2004 <20040213/UP>
MOST RECENT DERWENT UPDATE: 200411 <200411/DW>
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>>> NEW WEEKLY SDI FREQUENCY AVAILABLE --> see NEWS <<<

>>> SLART (Simultaneous Left and Right Truncation) is now available in the /ABEX field. An additional search field /BIX is also provided which comprises both /BI and /ABEX <<<

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FILE LAST UPDATED: 3 FEB 2004 <20040203/UP>
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<<< GRAPHIC IMAGES AVAILABLE >>>

=> d 133 1-62 cbib abs hitstr hitind

L33 ANSWER 1 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
2002:246975 Document No. 136:264371 Pneumatic **tires** with
good ice, snow, wet, and dry performance. Sasaka, Takahiro;
Nakamura, Eiji (Bridgestone Corp., Japan). Jpn. Kokai Tokkyo Koho
JP 2002096605 A2 20020402, 7 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 2000-291129 20000925.

AB The **tires** contain tread parts with tread patterns showing
snow **traction** index (STI) ≥ 150 , which contain 100
parts rubbers and 0.5-10 parts short fibers. Thus, SBR 1712 (SBR)
96.25, BR 01 (**cis-1,4-polybutadiene**) 30, Carbon N 220 (C
black) 40, Nipsil VN 3 (**SiO₂**) 40, Si 69 (silane coupling
agent) 4.0, stearic acid 2.0, zinc flower 3.0, Nocrac 6C
(antioxidant) 1.0, wax 1.0, Nocceler D (vulcanizing accelerator)
0.8, Nocceler DM (vulcanizing accelerator) 1.5, S 1.5, and
Polyethylene fiber 2 parts were kneaded to give a
tire.

IC ICM B60C001-00
ICS B60C011-03; C08K007-02; C08L021-00; C08L101-00
CC 39-13 (Synthetic Elastomers and Natural Rubber)
ST pneumatic **tire** wet dry performance SBR; **tire**
polybutadiene polyethylene polypropylene fiber
IT Styrene-butadiene rubber, properties
(SBR 1712; pneumatic **tires** with good ice, snow, wet,
and dry performance)
IT Polyamide fibers, properties
(aliph.; pneumatic **tires** with good ice, snow, wet, and
dry performance)
IT Polyamide fibers, properties
(aramid; pneumatic **tires** with good ice, snow, wet, and
dry performance)
IT Polyolefin fibers
(ethylene; pneumatic **tires** with good ice, snow, wet,
and dry performance)
IT Butadiene rubber, properties
(of cis-1,4-configuration, BR 01; pneumatic **tires** with
good ice, snow, wet, and dry performance)
IT **Tires**
(pneumatic **tires** with good ice, snow, wet, and dry
performance)
IT Polyester fibers, properties
Polypropene fibers, properties
Vinal fibers
(pneumatic **tires** with good ice, snow, wet, and dry
performance)
IT Polymer blends
(pneumatic **tires** with good ice, snow, wet, and dry
performance)
IT 9003-17-2
(butadiene rubber, of cis-1,4-configuration, BR 01; pneumatic
tires with good ice, snow, wet, and dry performance)
IT 9003-55-8
(styrene-butadiene rubber, SBR 1712; pneumatic **tires**
with good ice, snow, wet, and dry performance)

L33 ANSWER 2 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
2002:204599 Document No. 136:218164 Outsoles with good
antislip property under wet conditions and **shoes**
equipped with them. Umesawa, Ikuko (Sumitomo Rubber Industries Co.,
Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2002078505 A2 20020319, 7
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-272762
20000908.

AB The outsoles, having peak temp. of loss tangent curve from -30 to
0° measured in viscoelasticity spectrometers under conditions
of initial distortion 10%, vibration ±2%, starting temp.

-100°, finishing temp. 100°, temp.-rising rate 3°/min, and deformation by tension, contain ≥30 vol.% **acrylonitrile**-butadiene rubber (I) having Tg from -40 to 0°. Thus, a compn. comprising 100 parts Nipol DN 200 (I; Tg -28.0°), 45 parts Ultrasil VN 3 (**silica**), and other additives was vulcanized to give an outsole.

- IC ICM A43B013-04
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 ST **shoe** outsole vulcanized nitrile rubber **antislip**
 IT Butadiene rubber, properties
 (of cis-1,4-configuration, JSR-BR 11, vulcanized; outsoles with good **antislip** property under wet conditions)
 IT **Shoes**
 (outsoles; outsoles with good **antislip** property under wet conditions)
 IT Sporting goods
 (**shoes**; outsoles with good **antislip** property under wet conditions for)
 IT **Shoes**
 (sport; outsoles with good **antislip** property under wet conditions for)
 IT Nitrile rubber, properties
 (vulcanized; outsoles with good **antislip** property under wet conditions)
 IT 9003-17-2
 (butadiene rubber, of cis-1,4-configuration, JSR-BR 11, vulcanized; outsoles with good **antislip** property under wet conditions)
 IT 9003-18-3
 (nitrile rubber, vulcanized; outsoles with good **antislip** property under wet conditions)

L33 ANSWER 3 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 2002:151544 Document No. 136:185176 Use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compositions. Weller, Keith J. (Crompton Corporation, USA). U.S. US 6350797 B1 20020226, 12 pp. (English). CODEN: USXXAM. APPLICATION: US 1999-469926 19991222.

AB New sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns. and **tires** and **tire** parts, vulcanized and unvulcanized, made employing them are made with coupling agent compns. comprising a sulfur-contg. norbornenyl silicon compd. of the structure [Sy-R]_n-SiX_{4-n} wherein each X is chosen from monovalent hydrocarbon groups or hydrolyzable groups; y is 1 to 5 when y is 1 the compd. is an episulfide, and when y is 2 to 5 the sulfur atoms form a **polysulfide** wherein each sulfur atom is bonded to another sulfur atom and the terminal valences of the **polysulfide** are bonded to vicinal carbon

atoms; n is 1, 2 or 3; R is a polyvalent polycycloaliph. hydrocarbon radical. **Tires** made with these compns. exhibit a desirable combination of properties, including reduced rolling resistance and road noise and maintained or improved modulus, wet traction and abrasion resistance. 8-[(2-Triethoxysilyl)ethyl]-3,4,5-trithiatricycl [5.2.1.02.6]decane was prep'd. and used as a coupling agent for **silica** in a rubber **tire** compn.

IT 7631-86-9, **Silica**, uses
 (use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns.)
 RN 7631-86-9 HCPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08K005-45
 ICS C08C019-20; C08F008-36
 NCL 524082000
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 28
 ST cyclic sulfur silane coupling agent **tire**
 IT Coupling agents
Tires
 (use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns.)
 IT Butadiene rubber, uses
 Styrene-butadiene rubber, uses
 (use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns.)
 IT 9003-17-2
 (butadiene rubber, use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns.)
 IT 331283-08-0P
 (coupling agent; use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns.)
 IT 361552-86-5 400609-65-6 400609-66-7 400609-67-8 400609-68-9
 400609-69-0 400609-70-3 400609-71-4 400609-72-5 400609-73-6
 400609-74-7
 (coupling agent; use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire**

- rubber compns.)
IT 9003-55-8
(styrene-butadiene rubber, use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns.)
IT 7631-86-9, **Silica**, uses
(use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns.)
IT 10544-50-0, S8, reactions 18290-60-3 331283-06-8
(use of cyclic sulfur silanes as coupling agents in sulfur-vulcanizable, **silica**-reinforced **tire** rubber compns.)

L33 ANSWER 4 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
2001:698784 Document No. 135:258588 Method for imparting anticorrosive property to **tire** spaces in multi-story parking lots.
Saeki, Tadao; Nogami, Joji; Yamaguchi, Takeshi (Osaka Bosui Kogyosho K. K., Japan). Jpn. Kokai Tokkyo Koho JP 2001259519 A2 20010925, 3 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-120181 20000315.

AB The method comprises applying anticorrosive coatings on the floors made of steel plates, forming ≥0.5-mm thick (from the plate) cushion layers adhered to the coatings, and forming ≥1-mm thick **antislip** abrasion-resistant layers. Thus, a coating comprised sequential layers of an anticorrosive layer comprising Sabitight (**epoxy** resin), a cushion layer comprising UP Floor H (rigid elastic **polyurethane**), Jolyace 1270 (primer), REM 450 G 5M (glass mat) impregnated with Jolyace JE 2000M (polyester), **silica** sand (No. 3), Jolyace 2080J (colored polyester), and **silica** sand (No. 4).

IC ICM B05D007-14

ICS B05D005-00; B05D007-24; E04H006-42

CC 42-2 (Coatings, Inks, and Related Products)

ST anticorrosive **epoxy** resin coating parking lot; abrasion resistance fiber reinforced polyester parking lot; **antislip** **silica** sand coating parking lot; **polyurethane** cushion **tire** floor parking lot

IT Coating materials

(abrasion-resistant; imparting anticorrosive property to **tire** spaces in multi-story parking lots)

IT **Epoxy** resins, uses

(anticorrosive coatings; imparting anticorrosive property to **tire** spaces in multi-story parking lots)

IT Coating materials

(anticorrosive; imparting anticorrosive property to **tire** spaces in multi-story parking lots)

IT Sand

- (**antislip** aggregates; imparting anticorrosive property to **tire** spaces in multi-story parking lots)
- IT Coating materials
 (**antislip**; imparting anticorrosive property to **tire** spaces in multi-story parking lots)
- IT Polyurethanes, uses
 (cushion layers; imparting anticorrosive property to **tire** spaces in multi-story parking lots)
- IT Polyesters, uses
 (glass mat-reinforced; imparting anticorrosive property to **tire** spaces in multi-story parking lots)
- IT Reinforced plastics
 (glass mat-reinforced; imparting anticorrosive property to **tire** spaces in multi-story parking lots)
- IT Glass fibers, uses
 (mats, impregnated with polyesters, REM 450G5M; imparting anticorrosive property to **tire** spaces in multi-story parking lots)
- IT 362492-11-3, Joryace JE 2000M
 (imparting anticorrosive property to **tire** spaces in multi-story parking lots)
- IT 202936-12-7, Joryace JU 1270 362483-20-3, Sabitight 362488-50-4,
 UP Floor H 362493-10-5, Joryace 2080J
 (imparting anticorrosive property to **tire** spaces in multi-story parking lots)

L33 ANSWER 5 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 2001:331320 Document No. 134:341499 Diene polymers and copolymers incorporating partial coupling and terminals formed from hydrocarboxysilane compounds. Takeichi, Hideo; Graves, Daniel F.; Sarkar, Sunil B.; Lawson, David F.; Hergenrother, William L.; Cole, William M.; Oziomek, James (Bridgestone Corporation, Japan). U.S. US 6228908 B1 20010508, 17 pp., Cont.-in-part of U.S. 6,008,295. (English). CODEN: USXXAM. APPLICATION: US 1999-229025 19990112. PRIORITY: US 1997-891570 19970711; US 1997-893875 19970711; US 1997-985859 19971205.

AB Diene polymers or copolymers having improved balance between raw polymer viscosity and mixed compd. viscosity, useful in **tire** tread compns. having highly balanced wet **traction**, rolling resistance, and **traction** in ice and snow, and fracture properties in the cured and white carbon reinforced states are provided. These diene polymers or copolymers comprise a mixt. of diene polymer or copolymer chains contg. carbon-tin bonds in the main polymer or copolymer chains and diene polymer or copolymer chains contg. terminals derived from hydrocarboxysilane compds. The diene polymer or copolymers are prep'd. by first coupling a portion of the living diene polymer or copolymer chains obtained by anionic polymn. using a tin polyhalide coupling agent and then terminating

the remaining living diene polymer or copolymer chains using hydrocarboxysilane compds. The resultant diene polymers or copolymers have improved balance between raw polymer viscosity and mixed compd. viscosity when compounded with **silica** and/or carbon black and cured compns. are useful in **tire** tread having highly balanced wet **traction**, rolling resistance, and **traction** in ice and snow. The polymers can be utilized to form elastomer compns. contg. natural rubber, butadiene rubber, or SBR and fatty acid ester processing aids for **tire** treads having balanced properties of reduced rolling resistance and wet **traction** and handling or balanced properties of wet **traction** and handling and **traction** in snow and ice.

- IC ICM C08K005-15
ICS C08K005-04
- NCL 524027000
- CC 39-9 (Synthetic Elastomers and Natural Rubber)
- ST **tire** tread compn rolling resistance wet **traction**
; tin coupled diene polymer **tire** tread; alkoxysilane terminated diene polymer **tire** tread
- IT **Tires**
(treads; diene polymers and copolymers incorporating partial coupling and terminals formed from hydrocarboxysilane compds.)
- IT 9003-17-2P, **Polybutadiene**
(diene polymers and copolymers incorporating partial coupling and terminals formed from hydrocarboxysilane compds.)

L33 ANSWER 6 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
2001:324489 Document No. 134:327726 Rubber compositions for
tires. Sakai, Hideyuki; Nakamura, Norihiko; Nishioka,
Kentaro (Toyo Rubber Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo
Koho JP 2001123017 A2 20010508, 7 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1999-305093 19991027.

- AB The compns. contain fraipontite-**SiO₂** composites in addn. to rubbers 100, carbon black 20-60, and **SiO₂** ≤30 parts (total amts. of carbon black and **SiO₂** are 40-60 parts) and show JIS hardness (JIS K6253, at -5°) of vulcanizates of 50-70. Thus, a compn. contg. natural rubber (RSS 1) 50, butadiene rubber (BR 01) 50, carbon black (Seast 6) 50, process oil 25, and 5ZnO.**Al₂O₃**.3SiO₂.5H₂O/4SiO₂ (Mizukanite AP) 2 parts gave a vulcanizate showing JIS hardness 55, good abrasion resistance, and high braking performance on ice.
- IT 7631-86-9, **Silica**, uses
(rubbers contg. fraipontite-**SiO₂** composites for
tires with high braking performance)
- RN 7631-86-9 HCAPLUS
- CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

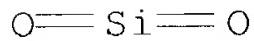
O=Si=O

- IC ICM C08L021-00
 ICS B60C001-00; C08K003-04; C08K003-34; C08K003-36
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST rubber **tire** fraipontite **silica** carbon black;
 braking performance **tire** rubber fraipontite **silica**
 IT Natural rubber, properties
 (RSS 1; rubbers contg. fraipontite-**SiO₂** composites for
tires with high braking performance)
 IT Butadiene rubber, properties
 (of cis-1,4-configuration, BR 01; rubbers contg. fraipontite-
SiO₂ composites for **tires** with high braking
 performance)
 IT **Tires**
 (rubbers contg. fraipontite-**SiO₂** composites for
tires with high braking performance)
 IT **Walnut**
 (**shell, antislip** component; rubbers contg.
 fraipontite-**SiO₂** composites for **tires** with
 high braking performance)
 IT 9003-17-2
 (butadiene rubber, of cis-1,4-configuration, BR 01; rubbers
 contg. fraipontite-**SiO₂** composites for **tires**
 with high braking performance)
 IT 7631-86-9, **Silica**, uses 12418-41-6, Fraipontite
 114705-12-3, **Aluminum** zinc **oxide** silicate
 (Al₂Zn₅O₂(SiO₄)₃) 156620-89-2, Mizukanite AP
 (rubbers contg. fraipontite-**SiO₂** composites for
tires with high braking performance)

L33 ANSWER 7 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 2001:207948 Document No. 134:238710 **Tire** with tread of novel
 polymer blend including styrene-rich styrene/isoprene/butadiene
 segmented terpolymer. Halsa, Adel Farhan; Hsu, Weng-Liang;
 Sandstrom, Paul Harry; Maly, Neil Arthur (Goodyear Tire & Rubber
 Company, USA). Eur. Pat. Appl. EP 1085047 A2 20010321, 10 pp.
 DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI,
 LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN:
 EPXXDW. APPLICATION: EP 2000-119108 20000904. PRIORITY: US
 1999-395446 19990914.

AB A rubber compn. comprised of a blend of segmented styrene-rich
 styrene/isoprene/butadiene terpolymer elastomer and ≥ 1 addnl.
 elastomer and **tire** with tread comprised of such rubber
 compn. Such **tires** may exhibit increased **traction**
 and reduced rolling resistance.

IT 7631-86-9, **Silica**, uses
 (tire with tread of novel polymer blend including
 styrene-rich styrene/isoprene/butadiene segmented terpolymer)
 RN 7631-86-9 HCPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L009-06
 ICS C08L021-00; C08K005-548; B60C001-00
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST butadiene isoprene styrene terpolymer rubber **tire**; SBR
 blend **tire** tread rolling resistance
 IT Isoprene-styrene rubber
 (block; **tire** with tread of novel polymer blend
 including styrene-rich styrene/isoprene/butadiene segmented
 terpolymer)
 IT Synthetic rubber, properties
 (butadiene-isoprene-styrene, block, triblock; **tire** with
 tread of novel polymer blend including styrene-rich
 styrene/isoprene/butadiene segmented terpolymer)
 IT **Polysulfides**
 (derivs., coupling agent; **tire** with tread of novel
 polymer blend including styrene-rich styrene/isoprene/butadiene
 segmented terpolymer)
 IT Isoprene rubber, properties
 (of 3,4-configuration; **tire** with tread of novel polymer
 blend including styrene-rich styrene/isoprene/butadiene segmented
 terpolymer)
 IT Isoprene rubber, properties
 (of cis-1,4-configuration; **tire** with tread of novel
 polymer blend including styrene-rich styrene/isoprene/butadiene
 segmented terpolymer)
 IT Coupling agents
 (**tire** with tread of novel polymer blend including
 styrene-rich styrene/isoprene/butadiene segmented terpolymer)
 IT Polymer blends
 Styrene-butadiene rubber, properties
 (**tire** with tread of novel polymer blend including
 styrene-rich styrene/isoprene/butadiene segmented terpolymer)
 IT Carbon black, uses
 (**tire** with tread of novel polymer blend including
 styrene-rich styrene/isoprene/butadiene segmented terpolymer)
 IT **Tires**
 (treads; **tire** with tread of novel polymer blend
 including styrene-rich styrene/isoprene/butadiene segmented

- terpolymer)
- IT 9003-31-0
(isoprene rubber, of 3,4-configuration; **tire** with tread of novel polymer blend including styrene-rich styrene/isoprene/butadiene segmented terpolymer)
- IT 9003-31-0
(isoprene rubber, of cis-1,4-configuration; **tire** with tread of novel polymer blend including styrene-rich styrene/isoprene/butadiene segmented terpolymer)
- IT 105729-79-1
(isoprene-styrene rubber, block; **tire** with tread of novel polymer blend including styrene-rich styrene/isoprene/butadiene segmented terpolymer)
- IT 9003-55-8
(styrene-butadiene rubber, **tire** with tread of novel polymer blend including styrene-rich styrene/isoprene/butadiene segmented terpolymer)
- IT 7631-86-9, **Silica**, uses
(**tire** with tread of novel polymer blend including styrene-rich styrene/isoprene/butadiene segmented terpolymer)
- IT 110389-01-0, Butadiene-isoprene-styrene block copolymer
(triblock, rubber; **tire** with tread of novel polymer blend including styrene-rich styrene/isoprene/butadiene segmented terpolymer)

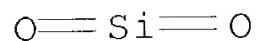
L33 ANSWER 8 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
2001:207946 Document No. 134:238708 Rubber compositions for
tire treads. Sohnen, Dietmar; Neddermann, Ralf; Meier,
Martin; Solovieva, Janna; Dumke, Joachim; Goulao, Luisa; Wiese,
Ursula (Continental Aktiengesellschaft, Germany). Eur. Pat. Appl.
EP 1085045 A2 20010321, 12 pp. DESIGNATED STATES: R: AT, BE, CH,
DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV,
FI, RO. (German). CODEN: EPXXDW. APPLICATION: EP 2000-119752
20000911. PRIORITY: DE 1999-19944657 19990917.

AB The title compns., which are vulcanizable by S to abrasion-resistant vulcanizates, contain 5-30 phr carbon black, 10-100 phr **SiO₂**, 1-15% (based on **SiO₂**) silane coupler, and 5-100 mol% (based on coupler) silane of specified structure. A 45:55 butadiene rubber-SBR blend contg. **SiO₂** 80, carbon black 15, oils 33, bis[3-(triethoxysilyl)propyl] **polysulfide** 5.64, bis[3-(triethoxysilyl)propyl] sulfide (I) 1.03, and vulcanizing agents and other additives 10.7 phr gave vulcanizates with 300% modulus 9.0 N/mm², breaking elongation 490%, DIN abrasion 110, and **traction** index on snow 104; vs. 9.0, 550, 100, and 100, resp., without I.

IT 7631-86-9, **Silica**, uses
(filler; rubber compns. for **tire** treads)

RN 7631-86-9 HCPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- IC ICM C08K005-5419
 ICS C08K005-548; C08L021-00; B60C001-00
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST **tire** tread rubber compd; butadiene rubber blend
tire tread; SBR blend **tire** tread; silane coupler
tire tread; sulfide silyl coupler **tire** tread;
 silica filler **tire** tread
 IT **Polysulfides**
 (bis[(triethoxysilyl)propyl]; rubber compns. for **tire**
 treads)
 IT Butadiene rubber, uses
 Isoprene rubber, uses
 Natural rubber, uses
 Styrene-butadiene rubber, uses
 (blends; rubber compns. for **tire** treads)
 IT Silanes
 (organosilanes, couplers; rubber compns. for **tire**
 treads)
 IT Coupling agents
 (organosilanes; rubber compns. for **tire** treads)
 IT **Tires**
 (treads; rubber compns. for **tire** treads)
 IT 9003-17-2
 (butadiene rubber, blends; rubber compns. for **tire**
 treads)
 IT 40372-72-3, Bis[3-(triethoxysilyl)propyl] tetrasulfide 60764-86-5,
 Bis[3-(triethoxysilyl)propyl] sulfide
 (coupler; rubber compns. for **tire** treads)
 IT 7631-86-9, **Silica**, uses
 (filler; rubber compns. for **tire** treads)
 IT 9003-31-0
 (isoprene rubber, blends; rubber compns. for **tire**
 treads)
 IT 9003-55-8
 (styrene-butadiene rubber, blends; rubber compns. for
 tire treads)

L33 ANSWER 9 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 2001:152333 Document No. 134:194456 Rubber compositions containing two
 kinds of **silica** with improved wet **traction** and
 rolling resistance. Materne, Thierry Florent Edme; Agostini,
 Giorgio; Visel, Friedrich; Frank, Uwe Ernst; Zimmer, Rene Jean (The

Goodyear Tire & Rubber Company, USA). Eur. Pat. Appl. EP 1078954 A2 20010228, 9 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2000-117515 20000814. PRIORITY: US 1999-PV149643 19990825.

- AB The rubber compn., useful for **tires**, belts and hoses, comprises (A) an elastomer contg. olefinic unsatn. and (B) 35-110 phr **silica** filler comprised of (i) 10-100 phr first **silica** having pore size distribution max. of the aggregates in the first **silica** 55-400 nm and av. sp. surface area 60-135 m²/g, and (ii) 10-100 phr second **silica** having pore size distribution max. of the aggregates in the second **silica** 5-50 nm and av. sp. surface area 140-250 m²/g.
- IT 7631-86-9, Z 1165MP, uses
 (Z 1115MP; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- RN 7631-86-9 HCPLUS
- CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- IC ICM C08L021-00
 ICS C08K003-36; B60C001-00
- CC 39-9 (Synthetic Elastomers and Natural Rubber)
- ST **silica** filler rubber wet **traction tire**
 ; rolling resistance **silica** filler rubber belt; hose
silica filler rubber
- IT Synthetic rubber, uses
 (acrylonitrile-isoprene; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT Synthetic rubber, uses
 (butadiene-Me **methacrylate**; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT Synthetic rubber, uses
 (butadiene-isoprene-styrene; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT Synthetic rubber, uses
 (butadiene-isoprene; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance for)
- IT Synthetic rubber, uses
 (isoprene-Me **methacrylate**; rubber compns. contg. two kinds of **silica** with improved wet **traction**

- IT and rolling resistance)
- IT Butadiene rubber, uses
(of cis-1,4-configuration; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance for)
- IT Butadiene rubber, uses
Butyl rubber, uses
EPDM rubber
Isoprene rubber, uses
Isoprene-styrene rubber
Natural rubber, uses
Neoprene rubber, uses
Nitrile rubber, uses
Styrene-butadiene rubber, uses
(rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT Belts
Hoses
Tires
(rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance for)
- IT 7631-86-9, Z 1165MP, uses
(Z 1115MP; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT 9003-17-2
(butadiene rubber, of cis-1,4-configuration; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance for)
- IT 9003-17-2
(butadiene rubber, rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT 9010-85-9
(butyl rubber, rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT 9003-31-0
(isoprene rubber, rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT 25038-32-8
(isoprene-styrene rubber, rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT 9010-98-4
(neoprene rubber, rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT 9003-18-3

(nitrile rubber, rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)

- IT 25232-40-0, Butadiene-methyl **methacrylate** copolymer
 (rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT 25014-10-2, Isoprene-methyl **methacrylate** copolymer
 25014-11-3, **Acrylonitrile**-isoprene copolymer 26602-62-0,
 Butadiene-isoprene-styrene copolymer
 (rubber; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)
- IT 25102-52-7, Butadiene-isoprene copolymer
 (rubber; rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance for)
- IT 9003-55-8
 (styrene-butadiene rubber, rubber compns. contg. two kinds of **silica** with improved wet **traction** and rolling resistance)

L33 ANSWER 10 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 2000:616372 Document No. 133:178688 **Antislip** sandals and
 their manufacture. Sato, Kazuo (Sato Rubber Kagaku K. K., Japan).
 Jpn. Kokai Tokkyo Koho JP 2000236902 A2 20000905, 6 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-45652 19990224.

AB Title sandals contain soles prep'd. by molding rubber compns. along with pre-cut sandpaper-like **antislip** sheets. The above sheets are prep'd. by coating resins on waterproof paper or cloth bases, scattering natural or artificial particles on the resin layers, and further covering with more resins. A SBR compn. was hot pressed with MC 50 (adhesive)-coated **antislip** sheets (prep'd. from base sheet, phenolic or **epoxy** resins, and **SiC** or **SiO₂** particles) and molded into a title sandal sole.

IT 409-21-2, **Silicon carbide**, uses
 1344-28-1, **Alumina**, uses 7631-86-9,
Silica, uses
 (particles, in prepn. of **antislip** sheets; manuf. of sandals with **antislip** soles)

RN 409-21-2 HCPLUS
 CN Silicon carbide (SiC) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 1344-28-1 HCPLUS
 CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 7631-86-9 HCPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O==Si==O

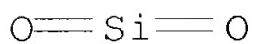
- IC ICM A43B003-18
ICS A43B003-20; A43B013-04; A43B013-22; A43C015-02
CC 39-15 (Synthetic Elastomers and Natural Rubber)
ST press molding rubber **antislip** sheet sole sandal
IT Paper
(bases, for prepn. of **antislip** sheets; manuf. of
sandals with **antislip** soles)
IT Synthetic fibers
(cloth, bases for prepn. of **antislip** sheets; manuf. of
sandals with **antislip** soles)
IT Molding of plastics and rubbers
(compression; manuf. of sandals with **antislip** soles)
IT Textiles
(cotton, bases for prepn. of **antislip** sheets; manuf. of
sandals with **antislip** soles)
IT **Epoxy** resins, uses
Phenolic resins, uses
(in prepn. of **antislip** sheets; manuf. of sandals with
antislip soles)
IT Butadiene rubber, uses
(isocyanate-terminated, adhesive, in prepn. of **antislip**
sheets; manuf. of sandals with **antislip** soles)
IT Natural rubber, uses
Styrene-butadiene rubber, uses
(manuf. of sandals with **antislip** soles)
IT Garnet-group minerals
(particles, in prepn. of **antislip** sheets; manuf. of
sandals with **antislip** soles)
IT **Shoes**
(soles; manuf. of sandals with **antislip** soles)
IT 9003-17-2
(butadiene rubber, isocyanate-terminated, adhesive, in prepn. of
antislip sheets; manuf. of sandals with **antislip**
soles)
IT 409-21-2, **Silicon carbide**, uses
1344-28-1, **Alumina**, uses 7631-86-9,
Silica, uses 7782-40-3, Diamond, uses 12415-34-8, Emery
(particles, in prepn. of **antislip** sheets; manuf. of
sandals with **antislip** soles)
IT 9003-55-8
(styrene-butadiene rubber, manuf. of sandals with
antislip soles)

L33 ANSWER 11 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 2000:441424 Document No. 133:59963 **Silica**-filled rubber composition containing a high molecular weight silane coupling agent for **tires**. Otsuki, Yutaka; Takagi, Akira (Nippon Mitsubishi Oil Corporation, Japan). Eur. Pat. Appl. EP 1013710 A1 20000628, 18 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1999-310571 19991224. PRIORITY: JP 1998-369676 19981225; JP 1999-91419 19990331; JP 1999-153396 19990601; JP 1999-154723 19990602.

AB Title compn. comprises a diene rubber, **silica** and optionally carbon black filler, and a high-mol. silane coupling agent prep'd. by adding a silane to a butadiene polymer (Mn 500-10,000). The compn. is dispersed satisfactorily, has superior processability, and gives products having superior mech. strength, fuel consumption properties, and **traction**. Thus, a mixt. of Nisseki **Polybutadiene** B 1000 (Mn 930, 65% vinyl group) 100, triethoxysilane 100, and 1.0% IPA soln. of hydrogen hexachloroplatinate 1 part was reacted 8 h at 85°, then volatiles removed, giving a transparent light-yellow liq. coupling agent. Thus, a compn. comprising JSR-SBR 1500 50, JSR-SL 574 50, N 234 40, Nipsil VN 3 40, Fukkol Aromax 3 36, ZnO 3, stearic acid 2, Nocceller D 2, Nocceller CZ 1.5, S 1.5, and above prep'd. coupling agent 4 parts showed Mooney viscosity 53, tensile strength 22.7 MPa, elongation 630%, 100% tensile stress 2.00 MPa, 300% tensile stress 9.95 MPa, abrasion vol. (JIS K 6264B, 1000 revolutions, 4.50 kgf load) 0.011 cm³, tan δ at 0° 0.162, and tan δ at 60° 0.124, compared with 54, 23.3, 520, 2.96, 12.7, 0.022, 0.152, and 0.124, resp., using Si 69 coupling agent.

IT 7631-86-9, **Silica**, uses
 (**silica**-filled rubber compn. contg. a high mol. wt.
 silane coupling agent for **tires**)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L021-00
 ICS C08C019-25
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST **silica** filler coupling agent **tire** property;
 ethoxysilane **Polybutadiene** reaction product coupling agent;
 SBR **tire** **silica** filler coupling agent
 IT Synthetic rubber, uses
 (butadiene-isoprene-styrene; **silica**-filled rubber
 compn. contg. a high mol. wt. silane coupling agent for

- IT tires)
IT Synthetic rubber, uses
 (butadiene-isoprene; **silica**-filled rubber compn. contg.
 a high mol. wt. silane coupling agent for **tires**)
IT Carbon black, uses
 (in **silica**-filled rubber compn. contg. a high mol. wt.
 silane coupling agent for **tires**)
IT Isoprene rubber, uses
 (of 3,4-configuration; **silica**-filled rubber compn.
 contg. a high mol. wt. silane coupling agent for **tires**)
IT Butadiene rubber, uses
IT Isoprene rubber, uses
 (of cis-1,4-configuration; **silica**-filled rubber compn.
 contg. a high mol. wt. silane coupling agent for **tires**)
IT Butadiene rubber, uses
 (of trans-1,4-configuration; **silica**-filled rubber
 compn. contg. a high mol. wt. silane coupling agent for
 tires)
IT Butadiene rubber, preparation
 (reaction products, of Nisseki B with triethoxysilane, coupling
 agents; **silica**-filled rubber compn. contg. a high mol.
 wt. silane coupling agent for **tires**)
IT Coupling agents
 Tires
 (**silica**-filled rubber compn. contg. a high mol. wt.
 silane coupling agent for **tires**)
IT ABS rubber
IT Isoprene-styrene rubber
IT Nitrile rubber, uses
IT Styrene-butadiene rubber, uses
 (**silica**-filled rubber compn. contg. a high mol. wt.
 silane coupling agent for **tires**)
IT **Tires**
 (treads; **silica**-filled rubber compn. contg. a high mol.
 wt. silane coupling agent for **tires**)
IT 9003-56-9
 (abs rubber, **silica**-filled rubber compn. contg. a high
 mol. wt. silane coupling agent for **tires**)
IT 9003-17-2
 (butadiene rubber, of cis-1,4-configuration; **silica**
 -filled rubber compn. contg. a high mol. wt. silane coupling
 agent for **tires**)
IT 9003-17-2
 (butadiene rubber, of trans-1,4-configuration; **silica**
 -filled rubber compn. contg. a high mol. wt. silane coupling
 agent for **tires**)
IT 9003-17-2P
 (butadiene rubber, reaction products, of Nisseki B with

- triethoxysilane, coupling agents; **silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- IT 998-30-1DP, Triethoxysilane, reaction products with **polybutadiene** 4420-74-0DP, KBM 803, reaction products with **polybutadiene**
(coupling agents; **silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- IT 9003-31-0
(isoprene rubber, of 3,4-configuration; **silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- IT 9003-31-0
(isoprene rubber, of cis-1,4-configuration; **silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- IT 25038-32-8
(isoprene-styrene rubber, **silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- IT 9003-18-3
(nitrile rubber, **silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- IT 25102-52-7, Butadiene-isoprene copolymer 26602-62-0,
Butadiene-isoprene-styrene copolymer
(rubber; **silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- IT 7631-86-9, **Silica**, uses
(**silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- IT 9003-55-8
(styrene-butadiene rubber, **silica**-filled rubber compn. contg. a high mol. wt. silane coupling agent for **tires**)
- L33 ANSWER 12 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
2000:139248 Document No. 132:181900 Rubber compositions for studless **tires**. Toda, Hiroya (Toyo Tire and Rubber Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000063569 A2 20000229, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-256007 19980825.
- AB Title compns. contain **antislip** materials, 100 parts blends of 10-40% syndiotactic 1,2-**polybutadiene**-modified cis-1,4-butadiene rubbers and 60-90% other diene rubbers, and 30-50 parts mixts. of 10-30:20-40 **SiO₂** and SAF or ISAF carbon black and show a -5° JIS hardness (HD; for vulcanized compns.) of 48-55 and dynamic modulus (E') of 8-15 MPa. A compn. contg. Ubepol VCR 10, natural rubber 50, butadiene rubber 40, carbon black 30, **SiO₂** 10, and **walnut shell** powders 4 parts was vulcanized to form a product showing HD 53 and

E' 10.0 MPa, which was used to form a **tire** with higher ice skid and abrasion resistance than a **tire** prep'd. similarly without the Ubepol VCR.

IT 7631-86-9, **Silica**, uses
 (syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)
 RN 7631-86-9 HCPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L009-00
 ICS B60C001-00; B60C011-00; B60C011-14; C08K003-04; C08K003-36
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST ice skid resistance studless **tire** syndiotactic vinyl butadiene rubber; abrasion resistance studless **tire** syndiotactic vinyl butadiene rubber
 IT Butadiene rubber, properties
 (of cis-1,4-configuration, syndiotactic 1,2-**polybutadiene** fiber-reinforced; syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid-resistant studless **tires**)
 IT **Walnut**
 (**shell**, powd., **antislip** materials;
 syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)
 IT **Tires**
 (studless; syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)
 IT Friction materials
 (syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)
 IT Carbon black, uses
 (syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)
 IT Butadiene rubber, uses
 Natural rubber, uses
 (syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)
 IT Polymer blends

(syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)

IT 9003-17-2

(butadiene rubber, of cis-1,4-configuration, syndiotactic 1,2-**polybutadiene** fiber-reinforced; syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)

IT 9003-17-2

(butadiene rubber, syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid-resistant studless **tires**)

IT 7631-86-9, **Silica**, uses

(syndiotactic vinyl-**polybutadiene**-modified butadiene rubber compns. for abrasion- and ice-skid- resistant studless **tires**)

L33 ANSWER 13 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN

2000:137166 Document No. 132:181897 Ice-skid- and abrasion-resistant pneumatic **tires**. Hayashi, Hiroyumi; Miyazaki, Yuji; Tanaka, Kazunori (Toyo Tire and Rubber Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000062414 A2 20000229, 5 pp.

(Japanese). CODEN: JKXXAF. APPLICATION: JP 1998-256006 19980825.

AB Title **tires** contain treads consisting of (a) base bodies having $\geq 20\%$ (in thickness) of road-contacting cap components contg. **antislip** materials and (b) cap-covering layers having a thickness of 0.5-2.0 mm and prep'd. from compns. which show a JIS hardness of 85-95 at 0° and contain 100 parts rubbers, 15-30 parts thermosetting phenolic resins (TP), and 2-20% (based on total TP) hardeners. A natural rubber compn. and a 10 phr pulverized **walnut shell** powder-contg. natural and butadiene rubber compn. were used to form **tire** tread base and cap components, resp. A natural rubber compn. contg. 30 phr Sumilite PR TY 7 and 2.5 phr hexamethylenetetramine was used to form a 1.2-mm covering for the above **tire** tread and to give a title **tire**.

IC ICM B60C011-00

ICS B60C011-00; B60C001-00; C08K003-36; C08L021-00; C08L061-06

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST abrasion resistance **tire** tread covering rubber phenolic resin blend; ice skid resistance **tire** tread covering rubber phenolic resin

IT **Walnut**

(**shell**, pulverized powder, **antislip** materials; thermosetting phenolic resin-contg. rubbers for **tire** tread coverings for abrasion and ice-skid resistance)

IT Butadiene rubber, uses

Natural rubber, uses
 Phenolic resins, uses
 (thermosetting phenolic resin-contg. rubbers for **tire**
 tread coverings for abrasion and ice-skid resistance)

IT Tires
 (treads; thermosetting phenolic resin-contg. rubbers for
tire tread coverings for abrasion and ice-skid
 resistance)

IT 9003-17-2
 (butadiene rubber, thermosetting phenolic resin-contg. rubbers
 for **tire** tread coverings for abrasion and ice-skid
 resistance)

IT 100-97-0, Hexamethylenetetramine, uses
 (thermosetting phenolic resin-contg. rubbers for **tire**
 tread coverings for abrasion and ice-skid resistance)

IT 259535-08-5, Sumilite PR-TY 7 259535-11-0, Formaldehyde-melamine-
 Sumilite PR TY 7 copolymer
 (thermosetting phenolic resin-contg. rubbers for **tire**
 tread coverings for abrasion and ice-skid resistance)

L33 ANSWER 14 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 2000:113110 Document No. 132:138683 **Tire** tread composition
 containing asymmetrically tin-coupled **polybutadiene**
 rubber. Blok, Edward John; Sandstrom, Paul Harry; Losey, Cheryl
 Ann; Halasa, Adel Farhan; Hsu, Wen-Liang; Zanzig, David John;
 Verthe, John Joseph Andre (The Goodyear Tire & Rubber Company, USA).
 U.S. US 6025430 A 20000215, 8 pp., Cont.-in-part of
 U.S. Ser. No. 935,172. (English). CODEN: USXXAM. APPLICATION: US
 1999-388491 19990902. PRIORITY: US 1997-935172 19970922.

AB The compn., relates to a **tire** tread compd. that is easily
 processable which can be used to improve the tread-wear, rolling
 resistance and **traction** characteristics of **tires**
 , comprises an asym. tin-coupled **polybutadiene** rubber
 20-60, natural and/or synthetic rubber 20-60 and a vinyl
polybutadiene rubber contg. >70% a vinyl content. Thus, a
 rubber for prepn. of **tire** tread with other kinds of rubber
 and additives was prep'd. by polymn. a premix of **SiO2/mol.**
 sieve/Al contg. 1,3-butadiene in hexane in the presence of Bu
 lithium for 2 h at 70°, coupling reaction with 0.65 M soln.
 of **SnCl4**, adding an antioxidant and evapn. solvent.

IC ICM C08L007-00
 ICS C08L009-00; C08K003-36

NCL 524526000

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST **tire** tread tin coupled **polybutadiene** rubber;
 natural synthetic rubber blend **tire**

IT Natural rubber, properties
 (TSR 20; **Tire** tread compn. contg. asym. tin-coupled

- IT **polybutadiene** rubber)
 Isoprene rubber, properties
 Polymer blends
 (**Tire** tread compn. contg. asym. tin-coupled
 polybutadiene rubber)
- IT Synthetic rubber, properties
 (butadiene-isoprene; **Tire** tread compn. contg. asym.
 tin-coupled **polybutadiene** rubber)
- IT Butadiene rubber, properties
 (of 1,2- and cis-1,4-configuration, tin-coupled; **Tire**
 tread compn. contg. asym. tin-coupled **polybutadiene**
 rubber)
- IT Butadiene rubber, properties
 (of 1,4-configuration, Budene 1209; **Tire** tread compn.
 contg. asym. tin-coupled **polybutadiene** rubber)
- IT **Tires**
 (treads; **Tire** tread compn. contg. asym. tin-coupled
 polybutadiene rubber)
- IT Butadiene rubber, properties
 (vinyl group-contg.; **Tire** tread compn. contg. asym.
 tin-coupled **polybutadiene** rubber)
- IT 7646-78-8D, Tin tetrachloride, **polybutadiene** rubber
 coupled by
 (**Tire** tread compn. contg. asym. tin-coupled
 polybutadiene rubber)
- IT 9003-17-2
 (butadiene rubber, of 1,2- and cis-1,4-configuration,
 tin-coupled; **Tire** tread compn. contg. asym. tin-coupled
 polybutadiene rubber)
- IT 9003-17-2
 (butadiene rubber, of 1,4-configuration, Budene 1209;
 Tire tread compn. contg. asym. tin-coupled
 polybutadiene rubber)
- IT 9003-17-2
 (butadiene rubber, vinyl group-contg.; **Tire** tread
 compn. contg. asym. tin-coupled **polybutadiene** rubber)
- IT 9003-31-0
 (isoprene rubber, **Tire** tread compn. contg. asym.
 tin-coupled **polybutadiene** rubber)

L33 ANSWER 15 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 2000:62671 Document No. 132:109244 Tread rubber compositions and their
 studless **tires** with ice-skid resistance. Mizuno, Yoichi
 (Sumitomo Rubber Industries Co., Ltd., Japan). Jpn. Kokai Tokkyo
 Koho JP 2000026656 A2 20000125, 8 pp. (Japanese). CODEN:
 JKXXAF. APPLICATION: JP 1998-200947 19980715.

AB Title compns. contain diene rubbers (e.g., natural, isoprene, and/or
 butadiene rubbers) 100, **SiO₂** 5-45, and polysiloxanes 1-20

parts with 6-12% (based on 100 parts **SiO₂**) silane couplers. A compn. contg. natural rubber 60, BR 150B 40, carbon black 40, **SiO₂** 5, Trefil E 500 10, S 1, and a silane coupler was made into a **tire** tread with ice-skid resistance index 125%, cornering ability 107%, and **traction** ability 121%, all based on a **tire** tread prep'd. similarly from a similar compn. contg. 45 phr carbon black without the **SiO₂**, coupler, and Trefil E 500.

IT 7631-86-9, **Silica**, uses
 (SiO₂/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

RN 7631-86-9 HCPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L007-00
 ICS B60C001-00; C08K003-36; C08K005-54; C08K007-16; C08L009-00;
 C08L007-00; C08L083-04

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST polysiloxane diene rubber **tire** tread ice skid resistance;
silica silane coupler polysiloxane diene rubber **tire** tread;
 cornering **traction** ability **tire** tread
 diene rubber polysiloxane

IT Butadiene rubber, uses
 (BR 150B; **SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

IT Silsesquioxanes
 (Me, Tospearl 105; **SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

IT Isoprene rubber, uses
 Natural rubber, uses
 (**SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

IT **Silicone** rubber, uses
 (Trefil E 500; **SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

IT Coupling agents
 (silanes; **SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

IT **Tires**

(treads; **SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

IT 7631-86-9, **Silica**, uses

(**SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

IT 9003-17-2

(butadiene rubber, BR 150B; **SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

IT 9003-31-0

(isoprene rubber, **SiO₂**/silane coupler/polysiloxane-contg. diene rubber-based treads for studless **tires** for ice-skid resistance)

L33 ANSWER 16 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN

1999:761129 Document No. 132:4010 High performance **tire**

tread rubber composition. Blok, Edward John; Sandstrom, Paul Harry; Hsu, Wen-Liang; Halasa, Adel Farhan (The Goodyear Tire & Rubber Company, USA). U.S. US 5994448 A 19991130, 6 pp.

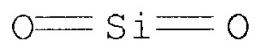
(English). CODEN: USXXAM. APPLICATION: US 1998-133503 19980812.

AB A **tire** tread compd. that can be used in manufg.

tires having outstanding **traction** characteristics without compromising tread wear and rolling resistance is prep'd. using an isoprene-butadiene rubber having a high glass transition temp. and SnR₃ end groups, where R is an alkyl group, such as tert-Bu. These isoprene-butadiene rubbers are made by reacting an isoprene-butadiene rubber having a glass transition temp. of about -50° to about 0° with a tin compd. having the formula SnR₃X, where R is an alkyl group and X is halogen. A **tire** tread rubber compn. contg. (1) 60-95 phr isoprene-butadiene rubber having a glass transition temp. of about -50° to 0° and SnR₃ end groups, (2) 5-30 phr natural rubber and (3) optionally, ≤25 phr rubbery polymer having a low glass transition temp. of about -85° to -55°, with the proviso that the total amt. of the natural rubber and the rubbery polymer having a low glass transition temp. does not exceed about 40 phr. The rubbery polymer having a low glass transition temp. will typically be high **cis-1,4-polybutadiene**, isoprene-butadiene rubber, styrene-butadiene rubber or styrene-isoprene-butadiene rubber. Thus, a living isoprene-butadiene rubber having lithium end groups was treated with tri-tert-butylditin chloride to give a tin-functionalized isoprene-butadiene rubber having a Mooney ML 1+4 viscosity of 76. Then 80 phr of this tin-functionalized rubber was blended with 20 phr natural rubber, 47 phr carbon black, 5 phr processing oil, 2.75 phr antioxidant, 2.8 phr waxes, 1.5 phr stearic

acid, 3.5 phr zinc oxide, 1.7 phr accelerators and 14 phr sulfur. The compounded rubber formulation was cured and tested to show that it displayed a reduced rolling resistance and significant improvements in wet **traction** when compared to typical high performance treads.

IT 7631-86-9, **Silica**, uses
(coupling agent and filler; **tire** tread rubber formulations for manuf. of **tires** with improved rolling resistance and **traction**)
RN 7631-86-9 HCPLUS
CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08K003-00
NCL 524492000
CC 39-13 (Synthetic Elastomers and Natural Rubber)
ST **tire** tread rubber formulation; butadiene
IT Synthetic rubber, properties
(butadiene-isoprene, trialkyltin-terminated; **tire** tread rubber formulations for manuf. of **tires** with improved rolling resistance and **traction**)
IT Synthetic rubber, properties
(butadiene-isoprene-styrene; **tire** tread rubber formulations for manuf. of **tires** with improved rolling resistance and **traction**)
IT Butadiene rubber, properties
(of cis-1,4-configuration; **tire** tread rubber formulations for manuf. of **tires** with improved rolling resistance and **traction**)
IT **Tires**
(**tire** tread rubber formulations for manuf. of **tires** with improved rolling resistance and **traction**)
IT Butadiene rubber, properties
Natural rubber, properties
Styrene-butadiene rubber, properties
(**tire** tread rubber formulations for manuf. of **tires** with improved rolling resistance and **traction**)
IT 9003-17-2
(butadiene rubber, of cis-1,4-configuration; **tire** tread rubber formulations for manuf. of **tires** with improved rolling resistance and **traction**)
IT 9003-17-2
(butadiene rubber, **tire** tread rubber formulations for

- manuf. of **tires** with improved rolling resistance and
traction)
- IT 7631-86-9, **Silica**, uses
(coupling agent and filler; **tire** tread rubber
formulations for manuf. of **tires** with improved rolling
resistance and **traction**)
- IT 25102-52-7D, Butadiene-isoprene copolymer, reaction products with
tri-tert-butyldtin chloride 26602-62-0, Butadiene-isoprene-styrene
copolymer
(rubber; **tire** tread rubber formulations for manuf. of
tires with improved rolling resistance and
traction)
- IT 9003-55-8
(styrene-butadiene rubber, **tire** tread rubber
formulations for manuf. of **tires** with improved rolling
resistance and **traction**)
- IT 25245-64-1D, Tri-tert-butyldtin chloride, reaction products with
butadiene-isoprene rubber
(**tire** tread rubber formulations for manuf. of
tires with improved rolling resistance and
traction)
- L33 ANSWER 17 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
1999:407219 Document No. 131:59861 Rubber compositions containing
silica and carbon black for ice-skid-resistant studless
tire treads. Miyazaki, Yuji; Hayashi, Hirofumi; Tanaka,
Kazunori (Toyo Tire and Rubber Co., Ltd., Japan). Jpn. Kokai Tokkyo
Koho JP 11172052 A2 19990629 Heisei, 4 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1997-362974 19971212.
- AB The compns. contain 45-65 phr vegetable grains [grain size (ϕ)
100-600 μm] 45-65, **silica** 3-15, and SAF or IASF carbon
black 40-60 phr and satisfy dynamic elastic modulus (E' ; 30°)
8.0-15.0 MPa. The vegetable grains are modified to show good
adhesion to rubber and work as **antislip** agents. Thus, a
vulcanized specimen of a 60:40 (%) blend of natural rubber and butyl
rubber contg. N 220 (carbon black) 50, **silica** 3, crushed
walnut shell (ϕ 100-600 μm) 10 (50% of them
were modified with resorcin-HCHO latex), ZnO 3, Nocrac 6C 1, a wax
1, S 2, and CBS (vulcanization accelerator) 1 phr showed E' 9.6 MPa,
tensile strength 88 kg/cm, and excellent ice-skid resistance and
abrasion resistance.
- IT 7631-86-9, **Silica**, properties
(fillers; ice-skid-resistant rubber compns. contg.
vegetable-derived **antislip** agents, **silica**,
and carbon black for studless **tires**)
- RN 7631-86-9 HCPLUS
- CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O=Si=O

- IC ICM C08L021-00
 ICS B60C001-00; B60C011-00; B60C011-14; C08K003-04; C08K003-34;
 C08K007-00
- CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST **silica** carbon amt controlled antiskid **tire**
 rubber; crushed **walnut shell antislip**
 studless **tire**; SAF ISAF carbon black studless rubber
tire
- IT Carbon black, properties
 (SAF or ISAF; ice-skid-resistant rubber compns. contg.
 vegetable-derived **antislip** agents, **silica**,
 and carbon black for studless **tires**)
- IT Butyl rubber, properties
 Natural rubber, properties
 (ice-skid-resistant rubber compns. contg. vegetable-derived
antislip agents, **silica**, and carbon black for
 studless **tires**)
- IT **Walnut**
 (**shell**, grains; ice-skid-resistant rubber compns.
 contg. vegetable-derived **antislip** agents,
silica, and carbon black for studless **tires**)
- IT **Tires**
 (treads; ice-skid-resistant rubber compns. contg.
 vegetable-derived **antislip** agents, **silica**,
 and carbon black for studless **tires**)
- IT 9010-85-9
 (butyl rubber, ice-skid-resistant rubber compns. contg.
 vegetable-derived **antislip** agents, **silica**,
 and carbon black for studless **tires**)
- IT 7631-86-9, **Silica**, properties
 (fillers; ice-skid-resistant rubber compns. contg.
 vegetable-derived **antislip** agents, **silica**,
 and carbon black for studless **tires**)
- IT 24969-11-7, Formaldehyde-resorcin copolymer
 (ice-skid-resistant rubber compns. contg. vegetable-derived
antislip agents, **silica**, and carbon black for
 studless **tires**)
- IT 1337-81-1D, Vinylpyridine, polymers
 (latex; ice-skid-resistant rubber compns. contg.
 vegetable-derived **antislip** agents, **silica**,
 and carbon black for studless **tires**)

studless **tires** with improved on ice-skid resistance and high tensile strength. Miyazaki, Yuji; Hayashi, Hirofumi; Tanaka, Kazunori (Toyo Tire and Rubber Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 11172044 A2 **19990629** Heisei, 4 pp. (Japanese).

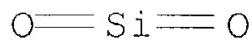
CODEN: JKXXAF. APPLICATION: JP 1997-362975 19971212.

AB Title compns., esp. useful for trucks, buses, light vans, give vulcanized products with dynamic modulus of elasticity (E' , at 30°) 8/0-15/0 MPa and contain (A) plant particles (particle size 100-600 μm ; pretreated for improving adhesion to rubber) as **antislip** agents, (B) 100 parts rubber components composed of 65-95% diene rubbers and 5-35% syndiotactic-1,2 **polybutadiene**-modified **cis-1,4-polybutadiene** rubber (VCR), (C) 30-50 parts SAF or ISAF carbon black, and (D) 3-15 parts **silica** at C + D 35-55 parts. Thus, a compn. comprising natural rubber 60, BR 20, VCR 20, N 110 (carbon black) 45 **silica** 10, pulverized **walnut shell** [av. particle size 100-600 μm , pretreated with RFL (a 1:6 mixt. of 1:2 resorcin-formaldehyde condensate and vinylpyridin latex)] 5, RFL-nontreated pulverized **walnut shell** 5, ZnO 3, stearic acid 1, oil 3, and Noclack 6C (antioxidant) 1, wax 1, and CBS (vulcanizing accelerator) 1 part gave vulcanized products showing E' 10.4 MPa, tensile strength 103 kg/cm, good **antislip** properties, and good wear resistance.

IT **7631-86-9, Silica**, uses
(fillers; diene rubber compns. contg. **polybutadiene** rubber, plant particles, carbon black, and **silica** for studless **tire** treads)

RN 7631-86-9 HCPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L009-00

ICS B60C001-00; B60C011-14; C08K003-04; C08K003-36

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST studless **tire** tread ice skid resistance; natural **polybutadiene** rubber blend studless **tire** tread; tensile strength studless **tire** tread; walnut **antislip** agent studless **tire**; carbon black studless **tire** diene rubber; **silica** filler studless **tire** diene rubber

IT Vehicles
(buses; diene rubber compns. contg. **polybutadiene** rubber, plant particles, carbon black, and **silica** for studless **tire** treads)

IT Friction materials

- Trucks
Walnut
(diene rubber compns. contg. **polybutadiene** rubber,
plant particles, carbon black, and **silica** for studless
tire treads)
- IT Butadiene rubber, properties
Natural rubber, properties
(diene rubber compns. contg. **polybutadiene** rubber,
plant particles, carbon black, and **silica** for studless
tire treads)
- IT Polymer blends
(diene rubber compns. contg. **polybutadiene** rubber,
plant particles, carbon black, and **silica** for studless
tire treads)
- IT Carbon black, uses
(fillers; diene rubber compns. contg. **polybutadiene**
rubber, plant particles, carbon black, and **silica** for
studless **tire** treads)
- IT Butadiene rubber, properties
(of 1,2-configuration, syndiotactic; diene rubber compns. contg.
polybutadiene rubber, plant particles, carbon black, and
silica for studless **tire** treads)
- IT Butadiene rubber, properties
(of cis-1,4-configuration; diene rubber compns. contg.
polybutadiene rubber, plant particles, carbon black, and
silica for studless **tire** treads)
- IT Tires
(treads; diene rubber compns. contg. **polybutadiene**
rubber, plant particles, carbon black, and **silica** for
studless **tire** treads)
- IT 9003-17-2
(butadiene rubber, diene rubber compns. contg.
polybutadiene rubber, plant particles, carbon black, and
silica for studless **tire** treads)
- IT 9003-17-2
(butadiene rubber, of 1,2-configuration, syndiotactic; diene
rubber compns. contg. **polybutadiene** rubber, plant
particles, carbon black, and **silica** for studless
tire treads)
- IT 9003-17-2
(butadiene rubber, of cis-1,4-configuration; diene rubber compns.
contg. **polybutadiene** rubber, plant particles, carbon
black, and **silica** for studless **tire** treads)
- IT 7631-86-9, Silica, uses
(fillers; diene rubber compns. contg. **polybutadiene**
rubber, plant particles, carbon black, and **silica** for
studless **tire** treads)
- IT 1337-81-1, Vinylpyridine 24969-11-7, Formaldehyde-resorcin

copolymer

(walnuts pretreated with; diene rubber compns. contg.
polybutadiene rubber, plant particles, carbon black, and
silica for studless **tire** treads)

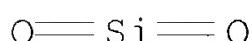
L33 ANSWER 19 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1999:393992 Document No. 131:32889 **Silica** reinforced rubber
 composition and **tire** with tread. Cohen, Martin Paul;
 Losey, Cheryl Ann; Roennau, Raymond Benjamin; Futamura, Shingo;
 Materne, Thierry Florent Edme; Hunt, James Oral; Thisé, Ghislain
 Adolphe Leon (The Goodyear Tire & Rubber Company, USA). U.S. US
 5914364 A 19990622, 10 pp., Cont.-in-part of U.S.
 5,780,538. (English). CODEN: USXXAM. APPLICATION: US 1997-814956
 19970310. PRIORITY: US 1996-613654 19960311.

AB The title compn. comprises ≥ 1 elastomer, **silica**, a
silica coupler, a hydrophobating agent such as an
 alkoxy silane, and optionally carbon black. Thus, a rubber compn.
 contg. n-octadecyltrimethoxysilane (I) and a **silica**
 coupler provided improvements in the tread wear, **traction**,
 and rolling resistance properties, when compared with a similar
 compn. contg. no I.

IT 7631-86-9, Z1165MP, properties
 (Z1165MP; **silica** reinforced rubber compns. contg.
 couplers and hydrophobating agents and carbon black for
tire)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08K003-36
 ICS C08K005-54

NCL 524494000

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST **silica** coupler hydrophobating agent **tire** rubber;
 octadecyltrimethoxysilane hydrophobating agent rubber; carbon black
silica rubber **tire**

IT Styrene-butadiene rubber, properties
 (Solflex 1216; **silica** reinforced rubber compns. contg.
 couplers and hydrophobating agents and carbon black for
tire)

IT Silanes
 (alkylalkoxy; **silica** reinforced rubber compns. contg.
 couplers and hydrophobating agents and carbon black for
tire)

IT Carbon black, uses

- (fillers; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT Butadiene rubber, properties
(of 1,2-configuration; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT Butadiene rubber, properties
(of cis-1,4-configuration, Budene 1254; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT Isoprene rubber, properties
(of cis-1,4-configuration; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT Butadiene rubber, properties
(of trans-1,4-configuration; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT Coupling agents
Fillers
Hydrophobicity
Tires
(**silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT **Polysulfides**
(**silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT ABS rubber
Isoprene rubber, properties
Isoprene-styrene rubber
Natural rubber, properties
Nitrile rubber, properties
Synthetic rubber, properties
(**silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 2943-75-1, A 137
(A 137; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 40372-72-3, X50S
(X50S; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 7631-86-9, Z1165MP, properties
(Z1165MP; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-56-9

- (abs rubber, **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-17-2
(butadiene rubber, of 1,2-configuration; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-17-2
(butadiene rubber, of cis-1,4-configuration, Budene 1254; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-17-2
(butadiene rubber, of trans-1,4-configuration; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-31-0
(isoprene rubber, of cis-1,4-configuration; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-31-0
(isoprene rubber, **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 25038-32-8
(isoprene-styrene rubber, **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-18-3
(nitrile rubber, **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-55-8 25102-52-7, Butadiene-isoprene copolymer 26602-62-0, Butadiene-isoprene-styrene copolymer
(rubber; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 78-62-6, Dimethyldiethoxysilane 2031-67-6, Methyltriethoxysilane 2550-02-9, Propyltriethoxysilane 2652-38-2, Diethoxymethyl-n-octylsilane 3069-42-9, n-Octadecyltrimethoxysilane 16415-13-7, Triethoxy-n-hexadecylsilane 182814-55-7, 2,2'-Bis-(triethoxysilyl-2-methylethyl) disulfide
(**silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)
- IT 9003-55-8
(styrene-butadiene rubber, Solflex 1216; **silica** reinforced rubber compns. contg. couplers and hydrophobating agents and carbon black for **tire**)

L33 ANSWER 20 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 1999:219836 Document No. 130:268434 **Tire** tread with
 elastomer blends of spatially defined glass transition temperatures
 excluding a range between -30 and -85 degrees. Francik, William
 Paul; Blok, Edward John; Sandstrom, Paul Harry; Verthe, John Joseph
 Andre; Zanzig, David John; Halasa, Adel Farhan (Goodyear Tire &
 Rubber Company, USA). Eur. Pat. Appl. EP 905185 A1 **19990331**
 , 9 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR,
 IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English).
 CODEN: EPXXDW. APPLICATION: EP 1998-117046 19980909. PRIORITY: US
 1997-931169 19970916.

AB A **tire** tread rubber compn. comprises, exclusive of
 elastomers having a Tg between -30° and -85°, (A)
 20-50 parts of at least one synthetic elastomer having a Tg in a
 range of -30° to +10°, (B) 50-80 parts of at least one
 synthetic elastomer having a Tg in a range of -85° to
 -110°, (C) 40-100 phr particulate reinforcing filler of
 carbon black alone or with **silica**, (D) at least one
 coupler for the **silica**, if **silica** is used,
 having a moiety reactive with the surface of **silica** and
 another, sulfur-based, moiety interactive with the elastomer. The
tire tread has low DIN abrasion value, good wet
traction and rolling resistance. Thus, a **tire**
 tread compn. comprising Budene 1208 (Tg .apprx.-103°) 70,
 high-vinyl butadiene rubber (Tg 25°) 30, processing aids 7.7,
 zinc oxide 3.5, antidegradants 3.4, carbon black 43, **silica**
 17, processing oil 3, and a 50/50 blend of carbon black and
 bis(triethoxysilylpropyl)**polysulfide** (X 50S) having an av.
 of 3.5-4 sulfur atoms 3.5, gave torque at 150° max. 38 dNm,
 min. 10.5 dNm, and delta torque 27.5 dNm, tensile strength 14.2 MPa,
 elongation 499%, 100% modulus 2.1 MPa, 300% modulus 8.2 MPa, rebound
 49% at 23° and 60% at 100°, Shore A hardness 63
 (23°) and 58 (100°), DIN abrasion 59, and tan δ
 at 0° 0.128, compared to 35, 8, 27, 19.9, 549, 2.2, 10.0, 43,
 60, 63, 57, 127, and 0.121, resp., for the control using a 50:50 SBR
 (Tg -40°)-natural rubber blend.

IT 7631-86-9, **Silica**, uses
 (filler; **tire** tread of elastomer blends having
 different glass temps. and reinforcing fillers such as carbon
 black and **silica**)

RN 7631-86-9 HCPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O==Si==O

IC ICM C08L009-00

CC ICS B60C001-00
ST 39-13 (Synthetic Elastomers and Natural Rubber)
elastomer blend **tire** tread; carbon black rubber blend
tire tread; butadiene rubber vinyl Budene 1208 blend; glass
temp rubber blend **tire** tread

IT **Polysulfides**
(bis(trialkoxysilylalkyl), coupling agent; **tire** tread
of elastomer blends having different glass temps. and reinforcing
fillers such as carbon black and **silica**)

IT Carbon black, uses
(filler; **tire** tread of elastomer blends having
different glass temps. and reinforcing fillers such as carbon
black and **silica**)

IT Butadiene rubber, uses
(of 1,2-configuration; **tire** tread of elastomer blends
having different glass temps. and reinforcing fillers such as
carbon black and **silica**)

IT Butadiene rubber, uses
(of cis-1,4-configuration, Budene 1208; **tire** tread of
elastomer blends having different glass temps. and reinforcing
fillers such as carbon black and **silica**)

IT Coupling agents
Fillers
(**tire** tread of elastomer blends having different glass
temps. and reinforcing fillers such as carbon black and
silica)

IT Isoprene rubber, uses
Polymer blends
Styrene-butadiene rubber, uses
(**tire** tread of elastomer blends having different glass
temps. and reinforcing fillers such as carbon black and
silica)

IT **Tires**
(treads; **tire** tread of elastomer blends having
different glass temps. and reinforcing fillers such as carbon
black and **silica**)

IT 9003-17-2
(1,2-Butadiene rubber, **tire** tread of elastomer blends
having different glass temps. and reinforcing fillers such as
carbon black and **silica**)

IT 40372-72-3
(coupling agent; **tire** tread of elastomer blends having
different glass temps. and reinforcing fillers such as carbon
black and **silica**)

IT 7631-86-9, Silica, uses 7699-41-4, Silicic acid
(H₂SiO₃)
(filler; **tire** tread of elastomer blends having
different glass temps. and reinforcing fillers such as carbon

- black and **silica**)
 IT 9003-31-0
 (isoprene rubber, **tire** tread of elastomer blends having different glass temps. and reinforcing fillers such as carbon black and **silica**)
 IT 9003-31-0
 (rubber; **tire** tread of elastomer blends having different glass temps. and reinforcing fillers such as carbon black and **silica**)
 IT 9003-55-8
 (styrene-butadiene rubber, **tire** tread of elastomer blends having different glass temps. and reinforcing fillers such as carbon black and **silica**)
 IT 9003-17-2
 (cis-1,4-Butadiene rubber, Budene 1208; **tire** tread of elastomer blends having different glass temps. and reinforcing fillers such as carbon black and **silica**)
- L33 ANSWER 21 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1999:209160 Document No. 130:253565 **Tire** tread compound comprising high-vinyl **polybutadiene** and tin-coupled **polybutadiene**. Blok, Edward John; Sandstrom, Paul Harry; Losey, Cheryl Ann; Halasa, Adel Farhan; Hsu, Wen-Liang; Zanzig, David John; Verthe, John Joseph Andre (Goodyear Tire and Rubber Co., USA). Eur. Pat. Appl. EP 903373 A1 **19990324**, 12 pp.
 DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 1998-117472 19980915. PRIORITY: US 1997-935172 19970922.

AB An easily processable **tire** tread rubber compn. comprises (1) 20-60 phr tin-coupled **polybutadiene** rubber, (2) 20-60 phr natural rubber or synthetic polyisoprene, and (3) 5-40 phr high-vinyl **polybutadiene** rubber, and improves the tread wear, rolling resistance and **traction** characteristics of **tires**. The blend of low glass transition temp. rubber and high glass transition temp. rubber is surprisingly easy to process. The asym. tin-coupled **polybutadiene** further improves the cold flow characteristics, processability and other beneficial properties of the rubber blend. Thus, a **tire** tread compn. comprising natural rubber 40, high-vinyl **polybutadiene** (80% vinyl) 20, tin tetrachloride-coupled **polybutadiene** 40, carbon black 38, and **silica** 12 parts, gave rheometer torque 9.6 (min.), 42 (max.), .32.4 (delta), T25 6.75, T90 10.5, 100% modulus 2.31 MPa, 300% modulus 11.83 MPa, break strength 16.94 MPa, elongation at break 418%, RT hardness 60.9, RT rebound 61%, and DIN abrasion resistance 72, compared to 11, 41.3, 30.3, 6.25, 9.75, 2.35, 11.09, 19.27, 489%, 61.6, 56.1%, and 96, resp., for a compn. comprising natural rubber 49, isoprene-butadiene rubber 45 and

IC 3,4-polyisoprene 6 parts.
 ICM C08L021-00
 ICS B60C001-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST **tire** tread vinyl butadiene rubber **polybutadiene**;
 blend natural rubber vinyl **polybutadiene** tread; butadiene
 rubber tin coupled **tire** tread

IT Butadiene rubber, uses
 (asym. tin-coupled; **tire** tread compd. comprising
 high-vinyl **polybutadiene** and tin-coupled
polybutadiene)

IT Butadiene rubber, uses
 (of 1,2-configuration, high-vinyl; **tire** tread compd.
 comprising high-vinyl **polybutadiene** and tin-coupled
polybutadiene)

IT Isoprene rubber, uses
 Natural rubber, uses
 Polymer blends
 (**tire** tread compd. comprising high-vinyl
polybutadiene and tin-coupled **polybutadiene**)

IT **Tires**
 (treads; **tire** tread compd. comprising high-vinyl
polybutadiene and tin-coupled **polybutadiene**)

IT 9003-17-2
 (1,2-Butadiene rubber, high-vinyl; **tire** tread compd.
 comprising high-vinyl **polybutadiene** and tin-coupled
polybutadiene)

IT 9003-17-2
 (butadiene rubber, asym. tin-coupled; **tire** tread compd.
 comprising high-vinyl **polybutadiene** and tin-coupled
polybutadiene)

IT 9003-31-0
 (isoprene rubber, **tire** tread compd. comprising
 high-vinyl **polybutadiene** and tin-coupled
polybutadiene)

L33 ANSWER 22 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1999:61164 Document No. 130:111424 Preparation of diene polymers
 incorporating partial coupling and terminals formed from
 hydrocarboxysilane compounds. Takeichi, Hideo; Lawson, David F.;
 Graves, Daniel F.; Sarkar, Sunil B. (Bridgestone Corporation,
 Japan). Eur. Pat. Appl. EP 890580 A1 19990113, 22 pp.
 DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI,
 LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (English). CODEN:
 EPXXDW. APPLICATION: EP 1998-112656 19980708. PRIORITY: US
 1997-891570 19970711.

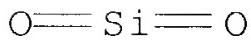
AB Diene polymers or copolymers, such as **polybutadiene** and
 styrene-butadiene copolymer, having improved balance between raw

polymer viscosity and mixed compd. viscosity, useful in **tire** tread compns. having highly balanced wet **traction**, rolling resistance, and **traction** in ice and snow, and fracture properties in the cured and white carbon reinforced states are provided. The diene polymers are prep'd. by (1) anionically polymg. a conjugated diene or a mixt. of a conjugated diene and an arom. vinyl compd. in a hydrocarbon solvent using an organoalkali metal or organoalkali earth metal initiator, (2) coupling 10-70 wt.% of the living diene polymer chains using a tin polyhalide coupling agent, and (3) terminating the remaining living diene polymer chains using hydrocarboxysilane compds.

IT **7631-86-9, Silica**, uses
 (rubber compns. for **tire** treads contg. Sn-coupled and siloxane-functionalized diene polymers)

RN 7631-86-9 HCPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08C019-44
 ICS C08L015-00

CC 39-4 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 35

ST **polybutadiene** rubber tin coupling siloxane termination; butadiene styrene rubber tin coupling siloxane termination; diene rubber tin coupling siloxane termination **tire** tread

IT Natural rubber, uses
 (rubber compns. for **tire** treads contg. Sn-coupled and siloxane-functionalized diene polymers)

IT **Tires**
 (treads; rubber compns. for **tire** treads contg. Sn-coupled and siloxane-functionalized diene polymers)

IT **7631-86-9, Silica**, uses
 (rubber compns. for **tire** treads contg. Sn-coupled and siloxane-functionalized diene polymers)

L33 ANSWER 23 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 1998:779796 Document No. 130:39677 Rubber blend compositions for winter **tire** treads. Dumke, Joachim; Wiese, Ursula; Du Bois, Andre (Continental Aktiengesellschaft, Germany). Eur. Pat. Appl. EP 881101 A1 **19981202**, 5 pp. DESIGNATED STATES: R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO. (German). CODEN: EPXXDW. APPLICATION: EP 1998-108965 19980516. PRIORITY: DE 1997-19721917 19970526.

AB Winter **tire** tread compns. are based on S-vulcanizable mixts. of cis-1,4-polyisoprene (such as natural rubber) 20-60, cis-

polybutadiene 20-60, vinyl-contg. (40-90%)
polybutadiene 20-45, and **silica** 50-100 phr; 10-40
phr carbon black may also be present. The **tires** show
improved wet **traction** and improved grip on snow and ice.
A typical compn. was based on natural rubber 35.0, Buna CB 10 32.5,
Buna VI 70-0 32.5, Ultrasil VN3 **silica** 70.0, and N339
carbon black 10.0 parts; abrasion resistance was as good as that of
a std. rubber compd. contg. SBR in place of the VI-BR 70-0, while
winter properties were improved by 8%.

IT **7631-86-9**, Ultrasil VN 3, uses
 (in winter **tire** tread compns. contg. natural and vinyl-
 and cis-butadiene rubbers)

RN **7631-86-9 HCPLUS**

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM B60C001-00
 ICS C08L009-00; C08L007-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST rubber compn winter **tire** tread; natural butadiene rubber
blend **tire** tread

IT Carbon black, uses
 (N 339; in winter **tire** tread compns. contg. natural and
 vinyl- and cis-butadiene rubbers)

IT Natural rubber, uses
 (in winter **tire** tread compns.)

IT Polymer blends
 (natural rubber/cis-1,4-butadiene rubber/1,2-butadiene rubber; in
 winter **tire** tread compns. with improved properties)

IT Butadiene rubber, uses
 (of 1,2-configuration; in winter **tire** tread compns.)

IT Butadiene rubber, uses
 (of cis-1,4-configuration, Buna CB 10; in winter **tire**
tread compns.)

IT **Tires**
 (treads, winter; natural-butadiene rubber blends for)

IT 9003-17-2
 (1,2-Butadiene rubber, in winter **tire** tread compns.)

IT **7631-86-9**, Ultrasil VN 3, uses
 (in winter **tire** tread compns. contg. natural and vinyl-
 and cis-butadiene rubbers)

IT 9003-17-2
 (cis-1,4-Butadiene rubber, Buna CB 10; in winter **tire**
tread compns.)

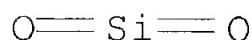
L33 ANSWER 24 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1998:682453 Document No. 129:291065 Improving **tire traction** using silicon-treated carbon blacks. Mahmud, Khaled; Wang, Meng-jiao (Cabot Corporation, USA). PCT Int. Appl. WO 9845361 A1 19981015, 61 pp. DESIGNATED STATES: W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, CY, DE, DK, ES, FI, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2.
 APPLICATION: WO 1998-US7369 19980409. PRIORITY: US 1997-826391 19970409.

AB Adding an effective amt. of an aggregate comprising a C phase and a Si-contg. species phase to an elastomer compd. improved the dynamic compliance (-20°) of the elastomer and overall **tire** properties. Thus, SBR contg. octamethylcyclotetrasiloxane-treated N234 carbon black and other additives had a tan δ (0°) 0.391, tan δ (70°) 0.175, and abrasion 84.4 and, with addn. coupling agent, a tan δ (0°) 0.435, tan δ (70°) 0.152, and abrasion 110.5.

IT 7631-86-9, **Silica**, uses
 (addnl. filler; contg. silicon-treated carbon blacks for improved **traction** and skid resistance on ice and snow)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08K003-04
 ICS C08K009-06; C08L021-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 49

ST **tire** compd wet skid resistance; **silicone** treated carbon black **tire**; natural rubber treated carbon black **tire**; dynamic compliance improved rubber **tire**

IT Fillers
 (carbon black; **tires** contg. silicon-treated carbon blacks for improved **traction** and skid resistance on ice and snow)

IT **Tires**
 (contg. silicon-treated carbon blacks for improved **traction** and skid resistance on ice and snow)

IT Butadiene rubber, properties
 EPDM rubber

- Natural rubber, properties
Styrene-butadiene rubber, properties
(contg. silicon-treated carbon blacks for improved
traction and skid resistance on ice and snow)
- IT Acrylic rubber
Butyl rubber, uses
Chlorinated **polyethylene** rubber
Epichlorohydrin rubber
Ethylene-vinyl acetate rubber
Isoprene rubber, uses
Neoprene rubber, uses
Nitrile rubber, uses
(contg. silicon-treated carbon blacks for improved
traction and skid resistance on ice and snow)
- IT Carbon black, uses
(fillers; **tires** contg. silicon-treated carbon blacks
for improved **traction** and skid resistance on ice and
snow)
- IT Coupling agents
(for improved abrasion resistance; contg. silicon-treated carbon
blacks for improved **traction** and skid resistance on ice
and snow)
- IT Nitrile rubber, uses
(hydrogenated; contg. silicon-treated carbon blacks for improved
traction and skid resistance on ice and snow)
- IT Carbon black, properties
(oxidized; **tires** contg. silicon-treated carbon blacks
for improved **traction** and skid resistance on ice and
snow)
- IT 7631-86-9, Silica, uses
(addnl. filler; contg. silicon-treated carbon blacks for improved
traction and skid resistance on ice and snow)
- IT 9003-17-2
(butadiene rubber, contg. silicon-treated carbon blacks for
improved **traction** and skid resistance on ice and snow)
- IT 9010-85-9
(butyl rubber, contg. silicon-treated carbon blacks for improved
traction and skid resistance on ice and snow)
- IT 9002-88-4D, chlorinated
(chlorinated **polyethylene** rubber, contg.
silicon-treated carbon blacks for improved **traction** and
skid resistance on ice and snow)
- IT 24937-78-8
(ethylene-vinyl acetate rubber, contg. silicon-treated carbon
blacks for improved **traction** and skid resistance on ice
and snow)
- IT 9003-31-0
(isoprene rubber, contg. silicon-treated carbon blacks for

IT improved traction and skid resistance on ice and snow)
 IT 9010-98-4
 (neoprene rubber, contg. silicon-treated carbon blacks for improved traction and skid resistance on ice and snow)
 IT 9003-18-3
 (nitrile rubber, contg. silicon-treated carbon blacks for improved traction and skid resistance on ice and snow)
 IT 9003-18-3
 (nitrile rubber, hydrogenated; contg. silicon-treated carbon blacks for improved traction and skid resistance on ice and snow)
 IT 78-10-4, Tetraethoxysilane 556-67-2, Octamethylcyclotetrasiloxane
 (reaction products with carbon black; contg. silicon-treated carbon blacks for improved traction and skid resistance on ice and snow)
 IT 9003-55-8
 (styrene-butadiene rubber, contg. silicon-treated carbon blacks for improved traction and skid resistance on ice and snow)

L33 ANSWER 25 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 1998:71616 Document No. 128:116200 **Antislip** rubbers and
shoe sole materials and **shoe** soles thereof.

Tokui, Yasuyuki; Tomohara, Suguru (Asics Corp, Japan). Jpn. Kokai
 Tokkyo Koho JP 10025353 A2 19980127 Heisei, 8 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1996-199827 19960709.

AB Epoxidized natural rubbers (epoxidn. degree 25-60 mol%), optionally
 contg. ≤50 % diene rubbers, are blended with 30-100 phr
 granules with Mohs' hardness ≥3 and size 40-200 µm to give
 the **antislip** rubbers. The **shoe** soles are not
 hardened at ≤-5°. Thus, a compn. of 50 mol%
 epoxidized natural rubber 100, SiO₂ 20, filler 25, ZnO 5,
 stearic acid 2, antioxidant 2, vulcanizing accelerator 4.0, S 1.5,
 and siliceous sand (70-150 µm) 30 parts was kneaded, hot pressed,
 and buffed to give a test piece showing static friction coeff. on
 ice 1.35.

IC ICM C08J005-14
 ICS A43B013-04; A43B013-22; C08K003-00; C08L015-00

CC 39-15 (Synthetic Elastomers and Natural Rubber)

ST epoxidized natural rubber **antislip shoe** sole;
 cold resistance rubber **shoe** sole

IT Cold-resistant materials
 (**antislip** rubbers for **shoe** soles with good
 cold resistance)

IT Paraffin oils
 Sand
 (**antislip** rubbers for **shoe** soles with good
 cold resistance)

- IT Butadiene rubber, properties
 Natural rubber, properties
 Styrene-butadiene rubber, properties
 (antislip rubbers for shoe soles with good cold resistance)
- IT Natural rubber, properties
 (epoxidized; antislip rubbers for shoe soles with good cold resistance)
- IT Shoes
 (soles; antislip rubbers for shoe soles with good cold resistance)
- IT 103-23-1, Dioctyl adipate 117-81-7, DOP
 (antislip rubbers for shoe soles with good cold resistance)
- IT 9003-17-2
 (butadiene rubber, antislip rubbers for shoe soles with good cold resistance)
- IT 9003-55-8
 (styrene-butadiene rubber, antislip rubbers for shoe soles with good cold resistance)

L33 ANSWER 26 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1997:668135 Document No. 127:279441 Tire having
 silica-reinforced tread. Holtzapple, Gregory Martin;
 Verthe, John Joseph Andre (Goodyear Tire and Rubber Co., USA). Eur.
 Pat. Appl. EP 796893 A1 19970924, 11 pp. DESIGNATED
 STATES: R: DE, FR, GB, IT. (English). CODEN: EPXXDW.
 APPLICATION: EP 1997-104322 19970313. PRIORITY: US 1996-620205
 19960322.

AB The invention relates to a tire with a rubber tread which is quant. reinforced with silica where the tread rubber is composed of a basic rubber compn. of high-vinyl polybutadiene rubber (I), ≥1 isoprene-butadiene copolymer rubbers and cis-1,4-polyisoprene rubber. Optionally, the basic elastomer compn. can also contain a minor amt. of cis-1,4-polybutadiene rubber, 3,4-polyisoprene rubber and/or styrene/isoprene copolymer rubber. Thus, a tire manufd. from a compd. contg. (I) 35, isoprene-butadiene copolymer rubber 30, natural rubber 35, processing oil arom. 3, processing oil naphthenic 9, fatty acid 5, silica (HiSil 210) 49, resins and waxes 1.5, X 50S (coupling agent) 9, ZnO 3.5, antidegrdn. agent 2.8, S, 1.3 and accelerators 1.2 phr had significantly improved tread wear, slightly improved wet traction and rolling resistance equiv. to a tire manufd. from a compd. contg. styrene-butadiene rubber instead of I.

IT 7631-86-9, Silica, uses
 (tire having silica-reinforced tread)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O==Si==O

IC ICM C08L009-00

ICS B60C001-00

CC 39-13 (Synthetic Elastomers and Natural Rubber).

ST polybutadiene rubber tire tread compd; tread
wear tire polybutadiene rubber compd;
traction wet polybutadiene rubber tire
tread

IT Silica gel, uses

(HiSil 210; tire having silica-reinforced
tread)

IT Styrene-butadiene rubber, properties

(Solflex 1216; tire having silica-reinforced
tread)

IT Synthetic rubber, properties

(butadiene-isoprene, 30% isoprene; tire having
silica-reinforced tread)

IT Butadiene rubber, properties

(high-vinyl; tire having silica-reinforced
tread)

IT Natural rubber, properties

(tire having silica-reinforced tread)

IT Tires

(treads; tire having silica-reinforced tread)

IT 9003-17-2

(butadiene rubber, high-vinyl; tire having
silica-reinforced tread)

IT 9003-55-8

(styrene-butadiene rubber, Solflex 1216; tire having
silica-reinforced tread)

IT 40372-72-3, X 50S (Coupling agent)

(tire having silica-reinforced tread)

IT 7631-86-9, Silica, uses

(tire having silica-reinforced tread)

L33 ANSWER 27 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN

1997:640959 Document No. 127:281213 Techniques for extending life of
tools for piercing high Cr stainless steel seamless pipes in
Mannesmann type piercer. Yorifuji, Akira; Toyooka, Takaaki;
Kanayama, Taro (Gijitsu Kenkyusho, Kawasaki Steel Corp., Chiba, 260,
Japan). Kawasaki Seitetsu Giho, 29(2), 64-70 (Japanese)
1997. CODEN: KWSGBZ. ISSN: 0368-7236. Publisher: Kawasaki
Seitetsu K.K..

AB A review with 14 refs. As the demand for high Cr stainless steel seamless pipes increased in recent years, manufg. technologies of pipes using Mannesmann piercing process were developed. The most serious problem encountered in piercing high Cr stainless steel billets is the formation of defects on inner and outer surfaces of pipes. The formation mechanisms of defects were clarified by investigating the conditions of roll, guide **shoe** and plug of piercer after piercing high Cr stainless steel billets. Hereby new lubrication techniques and plug material were developed. The main results obtained are as follows: (2) A fluid with **silicon carbides** between billet and piercer rolls can prevent slipping. (2) A lubricant contg. borate can suppress adhesion of billet material to piercer guide **shoes**. (3) The chem. compn. system of the developed piercer plug material is 0.3%C-0.5%Cr-1%Ni-0.5%Nb-1.5%Mo-3%W-1%Co.

CC 55-0 (Ferrous Metals and Alloys)

L33 ANSWER 28 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
1997:594765 Document No. 127:235139 High modulus compositions incorporating particulate chlorinated rubber. Bauman, Bernard D.; Williams, Mark A.; McInnis, Edwin L. (Composite Particles, Inc., USA). PCT Int. Appl. WO 9731955 A1 **19970904**, 56 pp.
DESIGNATED STATES: W: CA, CN, JP, KR, MX, RU; RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English).
CODEN: PIXXD2. APPLICATION: WO 1996-US20331 19961224. PRIORITY: US 1996-609520 19960301.

AB Rubber particles, as fillers or extenders for various composite polymer systems, are chlorinated by a gas-solid phase reaction with a Cl-contg. gas (.gtorsim.5 vol.% Cl) and the Cl can be dild. with air, N or other essentially inert gases and may contain minor amts. of F, but at higher cost. A composite polymer contg. the chlorinated rubber fillers or extenders exhibits a higher flexural modulus compared to using an unchlorinated rubber filler or extender. Improved performance is obtained with N diln. of the Cl gas over air diln. Thus, Airthane PET 95A contg. crosslinker and chlorinated rubber (20% Cl/air) was processed into a molded test piece having Young's modulus 72.4 lb/in.² (**sic**), vs. 64.1 lb/in.² for untreated rubber.

IC ICM C08F008-00

ICS C08L009-00; C08L023-00; C08L033-04

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 39

ST chlorinated rubber filler polymer; chlorination air diluent rubber filler; mech property filled **polyurethane**; friction material chlorinated rubber filled polymer

IT **Epoxy** resins, properties

(for adhesives; high modulus polymer compns. incorporating particulate chlorinated rubber)

- IT Chlorinated natural rubber
(from reclaimed rubber **tires**; high modulus polymer compns. incorporating particulate chlorinated rubber)
- IT **Acrylic** polymers, uses
Polyamides, uses
Polycarbonates, uses
Polyesters, uses
Polyisocyanurates
Polysiloxanes, uses
Polysulfides
(high modulus polymer compns. incorporating particulate chlorinated rubber)
- IT Nitrile rubber, properties
Polysulfide rubber
(high modulus polymer compns. incorporating particulate chlorinated rubber)
- IT **Polyurethanes**, properties
(high modulus polymer compns. incorporating particulate chlorinated rubber)
- IT Sporting goods
(in-line skate wheels with improved wet **traction**; high modulus polymer compns. incorporating particulate chlorinated rubber)
- IT **Tires**
(**Polyurethane** based with improved wet **traction**
; high modulus polymer compns. incorporating particulate chlorinated rubber)
- IT **Shoes**
(soles, EVA based; high modulus polymer compns. incorporating particulate chlorinated rubber)
- IT Friction materials
Wheels
(with improved wet **traction**; high modulus polymer compns. incorporating particulate chlorinated rubber)
- IT 24937-78-8, EVA
(for **shoe** soles; high modulus polymer compns.
incorporating particulate chlorinated rubber)

L33 ANSWER 29 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
1997:500121 Document No. 127:110187 Diene rubber compositions
containing polyether antistatic agent for **tires**, and their
manufacture. Cataldo, Franco (Bridgestone Corporation, Japan).
Eur. Pat. Appl. EP 779330 A1 19970618, 10 pp. DESIGNATED
STATES: R: DE, ES, FR, GB, IT. (English). CODEN: EPXXDW.
APPLICATION: EP 1996-120112 19961213. PRIORITY: IT 1995-T01013
19951215.

AB Title compns., useful for high-performance **tire** treads and
tires, with no or little accumulation of electrostatic

charges, good **traction** and low rolling resistance, comprise ≥ 1 rubber contg. diene (co)polymer rubber; a filler selected from **silica** and mixts. of carbon black and **silica**; and ≥ 1 solid polyether antistatic agent (such as polyalkylene oxide and polyarylene oxide). Thus, SSBR or ESBR 60, polyisoprene 40, **silica** 50, poly(ethylene oxide) 5 parts and other additives were mixed at 130-180° for 2-6 min, then mixed with sulfur 1.5 parts at <100° for 2-4 min, molded into sheets and cured at 160° for 15 min, showing elec. field index (ratio of elec. field of sample to elec. field of control without PEO x 100) 8 and elongation modulus 1.41 at elongation 50% and 7.97 at 300%.

IT 7631-86-9, **Silica**, uses
 (filler; diene rubber compns. contg. polyether antistatic agent for **tires**)

RN 7631-86-9 HCPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08K005-06
 ICS C08L021-00; C08K003-36

ICI C08L021-00, C08L071-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST polyether antistatic agent diene rubber **tire**; polyalkylene oxide **silica** diene rubber; polyarylene oxide diene rubber **tire** tread; **Polyethylene** oxide styrene butadiene rubber **tire**; SBR isoprene rubber polyoxyalkylene **silica** **tire**

IT Epichlorohydrin rubber
 Epichlorohydrin rubber
 Synthetic rubber, uses
 Synthetic rubber, uses
 (allyl glycidyl ether-epichlorohydrin-ethylene oxide, Hydrin T 75, antistatic agent; diene rubber compns. contg. polyether antistatic agent for **tires**)

IT Synthetic rubber, uses
 (allyl glycidyl ether-propylene oxide, antistatic agent; diene rubber compns. contg. polyether antistatic agent for **tires**)

IT **Tires**
 (diene rubber compns. contg. polyether antistatic agent for)

IT Antistatic agents
 (diene rubber compns. contg. polyether antistatic agent for **tires**)

IT Isoprene rubber, uses

- Natural rubber, uses
Styrene-butadiene rubber, uses
(diene rubber compns. contg. polyether antistatic agent for
tires)
IT Carbon black, uses
(filler, contg. **silica**; diene rubber compns. contg.
polyether antistatic agent for **tires**)
IT Synthetic rubber, uses
(polyether, antistatic agent; diene rubber compns. contg.
polyether antistatic agent for **tires**)
IT Synthetic rubber, uses
(polyoxyalkylene-based, antistatic agent; diene rubber compns.
contg. polyether antistatic agent for **tires**)
IT Synthetic rubber, uses
(polyoxymethylene, antistatic agent; diene rubber compns. contg.
polyether antistatic agent for **tires**)
IT Synthetic rubber, uses
(polytetramethylene glycol, antistatic agent; diene rubber
compns. contg. polyether antistatic agent for **tires**)
IT Synthetic rubber, uses
(propylene oxide, antistatic agent; diene rubber compns. contg.
polyether antistatic agent for **tires**)
IT Polyoxyalkylenes, uses
(rubber, antistatic agent; diene rubber compns. contg. polyether
antistatic agent for **tires**)
IT Fillers
(**silica**; diene rubber compns. contg. polyether
antistatic agent for **tires**)
IT **Tires**
(treads; diene rubber compns. contg. polyether antistatic agent
for)
IT 7631-86-9, **Silica**, uses
(filler; diene rubber compns. contg. polyether antistatic agent
for **tires**)
IT 9003-31-0
(isoprene rubber, diene rubber compns. contg. polyether
antistatic agent for **tires**)
IT 9002-81-7, Poly(oxymethylene) 25104-27-2, Allyl glycidyl
ether-propylene oxide block copolymer 25190-06-1,
Poly(oxytetramethylene) 25322-68-3, Poly(ethylene oxide)
25322-69-4 26587-37-1, Allyl glycidyl ether-epichlorohydrin-
ethylene oxide copolymer 31714-45-1, Poly(oxytrimethylene)
(rubber, antistatic agent; diene rubber compns. contg. polyether
antistatic agent for **tires**)
IT 9003-55-8
(styrene-butadiene rubber, diene rubber compns. contg. polyether
antistatic agent for **tires**)

L33 ANSWER 30 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
1996:672953 Document No. 125:331319 **Tire** tread composition containing **silica** and silane coupling agent for improved wet **traction**. Ferrandino, Mark P.; Hong, Sung W.; McKenzie, George T. (Uniroyal Chemical Company, Inc., USA). U.S. US 5569697 A 19961029, 7 pp. (English). CODEN: USXXAM.

APPLICATION: US 1995-437260 19950508.

AB **Tire** tread compns. comprising (a) .apprx.60-90 parts styrene-butadiene rubber contg. <20 wt.% styrene, (b) .apprx.10-40 parts nitrile rubber (NBR); (c) 30-80 phr carbon black; (d) 10-20 phr **silica**; (e) 1-3 phr of a silane coupling agent; and, optionally, (f) .apprx.10-30 phr of a high cis **polybutadiene** rubber. The **tire** tread compns. provide **tires** with excellent wet **traction** and low rolling resistance. Thus, a compn. comprising NS 112 (SBR) 90.0, Paracril X 3542 (NBR), **silica** 13.3, Si 69 coupling agent 1.5 parts and typical compounding ingredients showed tan δ 0.193 and loss modulus 1.03 at 0° and tan δ 0.088 and loss modulus 0.265 at 75°.

IC ICM C08K003-04

ICS C08K003-36

NCL 524492000

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST **tire** tread compn wet **traction**; SBR NBR rubber blend tread compn; butadiene styrene rubber blend **tire** tread; nitrile rubber blend **tire** tread; **silica** wet **traction** rubber compn; silane coupler wet **traction** rubber compn

IT Silica gel, uses

(Hi-Sil 233; **tire** tread compn. contg. **silica** and silane coupling agent for improved wet **traction**)

IT Rubber, butadiene-styrene, uses

(NS 112, Duradene 711; **tire** tread compn. contg. **silica** and silane coupling agent for improved wet **traction**)

IT Rubber, nitrile, uses

(Paracril X 3542, Paracril X 3754; **tire** tread compn. contg. **silica** and silane coupling agent for improved wet **traction**)

IT Coupling agents

(**tire** tread compn. contg. **silica** and silane coupling agent for improved wet **traction**)

IT Rubber, butadiene, uses

(of cis-1,4-configuration, Cisdene 1203; **tire** tread compn. contg. **silica** and silane coupling agent for improved wet **traction**)

IT **Tires**

(treads, antiskid, **tire** tread compn. contg.)

silica and silane coupling agent for improved wet traction)

IT 40372-72-3, Si 69
 (coupling agent; tire tread compn. contg.
 silica and silane coupling agent for improved wet traction)

IT 9003-55-8
 (rubber, NS 112, Duradene 711; tire tread compn. contg.
 silica and silane coupling agent for improved wet traction)

IT 9003-18-3
 (rubber, Paracril X 3542, Paracril X 3754; tire tread compn. contg. silica and silane coupling agent for improved wet traction)

IT 9003-17-2
 (rubber, of cis-1,4-configuration, Cisdene 1203; tire tread compn. contg. silica and silane coupling agent for improved wet traction)

L33 ANSWER 31 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1996:577051 Document No. 125:198731 Skid-resistant coatings for
 shoe soles, and shoes bearing them. Namisato,
 Satoru (Japan). Jpn. Kokai Tokkyo Koho JP 08170031 A2
 19960702 Heisei, 3 pp. (Japanese). CODEN: JKXXAF.

APPLICATION: JP 1994-335704 19941220.

AB Coatings contg. Al- or Si-type ceramics as 10-100 mesh particles and liq. rubbers are coated on the bottom of shoes and solidified to give shoes having antislip treads.
 Thus, butadiene-styrene rubber latex and alumina ceramic particles of 30-mesh size were mixed, coated on the bottom of a shoe, and allowed to vulcanize for 1 day at ambient temp.

IT 1344-28-1, Alumina, uses
 (ceramic particles; skid-resistant coatings contg. ceramics and rubbers for shoe soles)

RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM C09D005-00

ICS A43B013-22; C09D121-00

CC 42-10 (Coatings, Inks, and Related Products)

Section cross-reference(s): 39

ST butadiene styrene rubber antislip shoe; coating
 skid resistance shoe rubber; alumina silicon
 ceramic rubber coating shoe

IT Ceramic materials and wares
 Coating materials

(skid-resistant coatings contg. ceramics and rubbers for

- shoe soles)
- IT Rubber, butadiene-styrene, uses
(skid-resistant coatings contg. ceramics and rubbers for
shoe soles)
- IT **Shoes**
(soles, skid-resistant coatings contg. ceramics and rubbers for
shoe soles)
- IT 1344-28-1, **Alumina**, uses 7440-21-3, Silicon,
uses
(ceramic particles; skid-resistant coatings contg. ceramics and
rubbers for shoe soles)
- IT 9003-55-8
(rubber, skid-resistant coatings contg. ceramics and rubbers for
shoe soles)
- L33 ANSWER 32 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
1996:345351 Document No. 125:13110 **Tire** with tread of
elastomer composition. Zanzig, David John; Sandstrom, Paul Harry;
Verthe, John Joseph Andre; Dirossi, Raymond Robert; Holtzapple,
Gregory Martin (Goodyear Tire and Rubber Co., USA). Eur. Pat. Appl.
EP 705879 A1 19960410, 11 pp. DESIGNATED STATES: R: DE,
ES, FR, GB, IT. (English). CODEN: EPXXDW. APPLICATION: EP
1995-202545 19950921. PRIORITY: US 1994-315476 19940930.
- AB Pneumatic rubber **tire** with a tread composed of 50-90 phr a
rubber blend of ≥ 2 synthetic elastomers having difference in
 T_g 's of $\geq 40^\circ$ and composed of (i) 30-80 phr specialized
isoprene/butadiene copolymer elastomer of T_g -70 to -100°
promoting low rolling resistance and (ii) 5-30 phr a diene based
elastomer having a T_g -5 to -30° , together with a minor amt.
(10-50 phr) of natural cis-1,4-polyisoprene rubber. Representative
examples of ii are 3,4-polyisoprene elastomer, styrene/isoprene
copolymer elastomer, and high vinyl **polybutadiene**
elastomers. The tread rubber blend is reinforced with C black or a
combination of C black and **SiO₂** accompanied by a coupling
agent. A blend of natural rubber 30, 70/30 isoprene-butadiene
rubber (I; T_g -79°) 60, 3,4-polyisoprene(T_g -16) 10, C black
35, **SiO₂** 8, coupler 2, and process oil 7 parts was cured
at 150° for 18 min to give a sample having DIN abrasion 63
cm³, 23° rebound 59%, and 100° rebound 74%, vs. 81,
55, 71, resp., for rubber blend using SBR instead of I.
- IC ICM C08L009-00
ICS B60C001-00
- CC 39-13 (Synthetic Elastomers and Natural Rubber)
- ST natural rubber blend **tire** tread; butadiene isoprene rubber
blend **tire** tread; low glass temp rubber blend **tire**
; rolling resistance **tire** tread
- IT **Tires**
(**tire** with tread of low glass temp. elastomer blend for

- IT low rolling resistance and good **traction** on wet roads)
Rubber, butadiene-styrene, properties
Rubber, natural, properties
(**tire** with tread of low glass temp. elastomer blend for
low rolling resistance and good **traction** on wet roads)
- IT Rubber, synthetic
(butadiene-isoprene, **tire** with tread of low glass temp.
elastomer blend for low rolling resistance and good
traction on wet roads)
- IT Rubber, nitrile, properties
(carboxy-contg., **tire** with tread of low glass temp.
elastomer blend for low rolling resistance and good
traction on wet roads)
- IT Rubber, natural, properties
(epoxidized, **tire** with tread of low glass temp.
elastomer blend for low rolling resistance and good
traction on wet roads)
- IT Rubber, synthetic
(isoprene-styrene, **tire** with tread of low glass temp.
elastomer blend for low rolling resistance and good
traction on wet roads)
- IT Rubber, isoprene, properties
(of 3,4-configuration, **tire** with tread of low glass
temp. elastomer blend for low rolling resistance and good
traction on wet roads)
- IT Rubber, butadiene, properties
(of cis-1,4-configuration, **tire** with tread of low glass
temp. elastomer blend for low rolling resistance and good
traction on wet roads)
- IT 9003-18-3
(rubber, carboxy-contg., **tire** with tread of low glass
temp. elastomer blend for low rolling resistance and good
traction on wet roads)
- IT 9003-31-0
(rubber, of 3,4-configuration, **tire** with tread of low
glass temp. elastomer blend for low rolling resistance and good
traction on wet roads)
- IT 9003-17-2
(rubber, of cis-1,4-configuration, **tire** with tread of
low glass temp. elastomer blend for low rolling resistance and
good **traction** on wet roads)
- IT 9003-55-8
(rubber, **tire** with tread of low glass temp. elastomer
blend for low rolling resistance and good **traction** on
wet roads)
- IT 25102-52-7, Isoprene-butadiene copolymer
(rubber; **tire** with tread of low glass temp. elastomer
blend for low rolling resistance and good **traction** on

wet roads)

- L33 ANSWER 33 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 1995:992579 Document No. 124:10736 **Silica**-filled rubbery
 vulcanizates. Urban, Paul Carl; von Hellens, Walter (Polysar Rubber
 Corp., Can.; Bayer Inc.). Eur. Pat. Appl. EP 676443 A2
19951011, 15 pp. DESIGNATED STATES: R: DE, ES, FR, GB, IT.
 (English). CODEN: EPXXDW. APPLICATION: EP 1995-104391 19950324.
 PRIORITY: US 1994-223790 19940406.
- AB The title vulcanizates useful for **tires** having good
 strength, flexibility, rolling resistance, and wet **traction**
 are prep'd. by mixing rubbery polymer (ABS rubber,
polybutadiene, styrene-butadiene polymer or natural rubber
 or a mixt. of **polybutadiene** and natural rubber) with
SiO₂ or **SiO₂** and C black, polyfunctional
polysulfide silane compd., and S-based vulcanization agents.
 A compn. of ABS (10:65:25%) rubber (3 phase) was masterbatched with
SiO₂ 50, C black 5, X50 S (silane) 2, accelerator (Vulkacit
 NZ/EGC) 1.8, and accelerator diphenylguanidine 2 phr was vulcanized
 and shaped to give a test product having 100% modulus 3.4 MPa,
 elongation 355%, and tan δ (0°) 0.256 and tan δ
 (60°) 0.127; vs. 3.4, 450, 0.152, and 0.130, resp., using SBR
 rubber, but without **SiO₂** and X50 S silane.
- IT 7631-86-9, **Silica**, properties
 (**silica**-filled rubbery vulcanizates and properties)
- RN 7631-86-9 HCPLUS
- CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



- IC ICM C08K003-36
 ICS C08L021-00
- CC 39-13 (Synthetic Elastomers and Natural Rubber)
- ST **silica** filler rubber vulcanizate **tire**; sulfide
 silane coupling agent vulcanizate; carbon **silica** blend
 rubber vulcanizate; sulfur vulcanization agent **silica**
 filler rubber
- IT **Tires**
 (**silica**-filled rubbery vulcanizates and properties)
- IT Carbon black, properties
 Rubber, natural, properties
 (**silica**-filled rubbery vulcanizates and properties)
- IT Rubber, synthetic
 (**acrylonitrile**-butadiene-styrene, **silica**
 -filled rubbery vulcanizates and properties)
- IT Rubber, butadiene, properties

(of cis-1,4-configuration, **silica**-filled rubbery vulcanizates and properties)

- IT 40372-72-3
 (coupling agent; **silica**-filled rubbery vulcanizates and properties)
- IT 9003-17-2
 (rubber, of cis-1,4-configuration, **silica**-filled rubbery vulcanizates and properties)
- IT 7631-86-9, **Silica**, properties 9003-56-9, ABS
 (**silica**-filled rubbery vulcanizates and properties)

L33 ANSWER 34 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1995:804317 Document No. 123:201748 Pneumatic **tire** with **silica** reinforced tread of ternary rubber blend. Zanzig, David John; Sandstrom, Paul Harry; Crawford, Michael Julian; Verthe, John Joseph Andre; Losey, Cheryl Ann (Goodyear Tire and Rubber Co., USA). Eur. Pat. Appl. EP 638610 A1 **19950215**, 10 pp.
 DESIGNATED STATES: R: BE, DE, ES, FR, GB, IT, NL. (English).
 CODEN: EPXXDW. APPLICATION: EP 1994-111693 19940727. PRIORITY: US 1993-103365 19930809.

AB A **tire** tread which is reinforced with **silica** and composed of ≥ 3 rubbers selected from isoprene/butadiene copolymer rubber, 3,4-polyisoprene rubber, cis 1,4-**polybutadiene** rubber and which may also contain cis 1,4-polyisoprene natural rubber shows and excellent balance of rolling resistance, **traction** and tread wear. A **tire** made from butadiene-isoprene rubber 50, cis-1,4-**polybutadiene** rubber 25, and natural rubber 25, **silica** 80, and other additives 63, and coupling agent 12 parts had tan δ at 60° 0.081 and DIN abrasion 87 cm³, vs. 0.113, and 131, resp., for a **tire** made of SBR-butyl rubber blend.

IT 7631-86-9, **Silica**, properties
 (reinforcement; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L009-00
 ICS B60C001-00
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST **silica** reinforced **tire** tread; butadiene isoprene rubber blend **tire**; natural rubber blend **tire**;
polybutadiene rubber blend **tire**

IT **Tires**

(pneumatic, sulfur-vulcanized; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend for excellent balance of rolling resistance, **traction** and tread wear)

IT Carbon black, properties

(reinforcement; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

IT Rubber, natural, properties

(sulfur-vulcanized blend; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

IT Rubber, synthetic

(butadiene-isoprene, sulfur-vulcanized blend; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

IT Rubber, isoprene, properties

(of 3,4-configuration, sulfur-vulcanized blend; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

IT Rubber, butadiene, properties

(of cis-1,4-configuration, sulfur-vulcanized blend; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

IT 40372-72-3, Bis-(3-triethoxysilylpropyl) tetrasulfide

(coupling agent; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

IT 7631-86-9, **Silica**, properties

(reinforcement; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

IT 9003-31-0

(rubber, of 3,4-configuration, sulfur-vulcanized blend; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

IT 9003-17-2

(rubber, of cis-1,4-configuration, sulfur-vulcanized blend; pneumatic **tire** with **silica** reinforced tread of ternary rubber blend)

L33 ANSWER 35 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN

1995:735285 Document No. 123:115030 Pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear. Zanzig, David John; Sandstrom, Paul Harry; Crawford, Michael Julian; Verthe, John Joseph Andre; Losey, Cheryl Anne (Goodyear Tire and Rubber Co., USA). Eur. Pat. Appl. EP 641823 A1 19950308, 12 pp. DESIGNATED STATES: R: BE, DE, ES, FR, GB, IT, NL. (English). CODEN: EPXXDW. APPLICATION: EP 1994-113268 19940825. PRIORITY: US 1993-116623 19930907.

AB Title **tire** is composed of cis 1,4-polybutadiene rubber 10-50, a high vinyl polybutadiene rubber ≤90 and, optionally a medium vinyl polybutadiene rubber ≤90, in addn. to **SiO₂** 50-110, C black 0-50 phr, and coupler, e.g. bis-3-(triethoxysilylpropyl)tetrasulfide. Also, the tread rubber can also contain a minor amt. of cis 1,4-polyisoprene natural rubber.

IT 7631-86-9, **Silica**, properties
 (pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08K005-54
 ICS C08K003-36; C08L009-00; B60C011-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST polybutadiene rubber blend **silica** reinforced **tire**; medium vinyl polybutadiene **tire**; high vinyl polybutadiene **tire**; silylpropyltetrasulfide coupler polybutadiene **tire**; rolling resistance **traction** wear pneumatic **tire**

IT **Tires**
 (pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)

IT Carbon black, uses
 (pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)

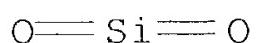
IT Rubber, natural, properties
 (pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)

IT Rubber, butadiene, properties
 (of 1,2-configuration, medium and high vinyl; pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)

IT Rubber, butadiene, properties
 (of cis-1,4-configuration, pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)

IT 40372-72-3
 (coupler; pneumatic rubber **tire** with **silica**)

- reinforced tread for good balance of rolling resistance, traction and wear)
- IT 7631-86-9, **Silica**, properties
 (pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)
- IT 9003-17-2
 (rubber, of 1,2-configuration, medium and high vinyl; pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)
- IT 9003-17-2
 (rubber, of cis-1,4-configuration, pneumatic rubber **tire** with **silica** reinforced tread for good balance of rolling resistance, **traction** and wear)
- L33 ANSWER 36 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1995:708317 Document No. 123:85728 Carbon blacks for **tire**
 compositions having reduced rolling resistance and high treadwear resistance. Shieh, Chiung-Huei; Farr, William A.; McElwain, Thomas E.; Taylor, Roscoe W.; Patterson, William J.; Denstaedt, Glenn E.; Juengel, Robert R.; Laube, Stephen G. (Cabot Corp., USA). PCT Int. Appl. WO 9419412 A1 19940901, 32 pp. DESIGNATED STATES:
 W: AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, ES, FI, GB, HU, JP, KR, KZ, LK, LU, LV, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, UZ, VN; RW: AT, BE, BF, BJ, CF, CG, CH, CI, CM, DE, DK, ES, FR, GA, GB, GR, IE, IT, LU, MC, ML, MR, NE, NL, PT, SE, SN, TD, TG. (English). CODEN: PIXXD2. APPLICATION: WO 1994-US2235 19940223. PRIORITY: US 1993-23822 19930223; US 1993-41389 19930401.
- AB The title C blacks have a CTAB \geq 140 m²/g, a CDBP \geq 115 mL/100 g, a tint value \geq 135%, a ΔD_{50} \leq 50 nm, a Dmode \leq 72 nm, an occluded vol. index \geq 1.30, a N2SA \geq 150 m²/g, and <180 m²/g; and a DBP \geq 140 mL/100g. All of the rubber compds. (10-45 phr C black filled) may addnl. include 5-30 phr **SiO₂** to improve traction performance. Natural rubber **tires** contg. C black (CTAB 148, CDBP 120, tint 150%, N2SA 157, DBP 142, Dmode 59, occluded vol. index 1.49) had abrasion resistance (21% **slip**; normalized to **control**) 113% and rebound (70°) 61.7%, vs. 100 and 64.9, resp., using **tires** contg. Vulcan 10H control.
- IT 7631-86-9, **Silica**, uses
 (for traction; carbon blacks for **tire** compns. having reduced rolling resistance and high treadwear resistance)
- RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C09C001-50
ICS C08K003-04; C08L021-00
CC 39-13 (Synthetic Elastomers and Natural Rubber)
Section cross-reference(s): 49
ST carbon black filler rubber **tire**; rolling resistance
tire carbon black; abrasion treadwear resistance
tire carbon black
IT Carbon black, properties
(carbon blacks for **tire** compns. having reduced rolling
resistance and high treadwear resistance)
IT Rubber, butadiene, properties
Rubber, butadiene-styrene, properties
Rubber, natural, properties
(carbon blacks for **tire** compns. having reduced rolling
resistance and high treadwear resistance)
IT 7631-86-9, **Silica**, uses
(for traction; carbon blacks for **tire** compns. having
reduced rolling resistance and high treadwear resistance)
IT 9003-17-2 9003-55-8
(rubber, carbon blacks for **tire** compns. having reduced
rolling resistance and high treadwear resistance)

L33 ANSWER 37 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
1995:605613 Document No. 122:316758 **Antislip shoe**
soles. Kodama, Hironori (Moon Star Chemical Corp, Japan). Jpn.
Kokai Tokkyo Koho JP 07051102 A2 19950228 Heisei, 3 pp.
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-220678 19930811.

AB Title soles are prep'd. from compns. contg. 100 parts 70-100%
epoxydized natural rubber and 0-30% other diene rubber
blends, 10-30 parts reinforcers, and 5-30 parts cold-resistant
plasticizers. A vulcanized epoxidized natural rubber test piece
contg. 15 phr **SiO₂** and 5 phr dioctyl adipate (I) showed
friction coeff. (vertical load 80 kg, horizontal tension speed 50
mm/min) 0.59, vs. 0.29 for a vulcanized SBR sample contg. spindle
oil instead of I.

IC ICM A43B013-04
ICS A43B013-22; C08L007-00
CC 39-15 (Synthetic Elastomers and Natural Rubber)
ST **antislip shoe** sole epoxidized natural rubber;
cold resistant plasticizer **antislip shoe** sole
IT Plasticizers
(cold-resistant plasticizer-contg. epoxidized natural rubber
compns. for **antislip shoe** soles)
IT Rubber, butadiene, uses
Rubber, butadiene-styrene, uses
Rubber, isoprene, uses
Rubber, nitrile, uses

(cold-resistant plasticizer-contg. epoxidized natural rubber compns. for **antislip shoe** soles)

- IT Rubber, natural, uses
 (epoxidized, cold-resistant plasticizer-contg. epoxidized natural rubber compns. for **antislip shoe** soles)
- IT **Shoes**
 (outsoles, cold-resistant plasticizer-contg. epoxidized natural rubber compns. for **antislip shoe** soles)
- IT 103-23-1, Dioctyl adipate
 (cold-resistant plasticizer-contg. epoxidized natural rubber compns. for **antislip shoe** soles)
- IT 9003-17-2 9003-18-3 9003-31-0 9003-55-8
 (rubber, cold-resistant plasticizer-contg. epoxidized natural rubber compns. for **antislip shoe** soles)

L33 ANSWER 38 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1995:465666 Document No. 122:190141 **Antislip** materials and manufacture of **antislip tires**. Watanabe, Seiichi (Watanabe Seiichi, Japan). Jpn. Kokai Tokkyo Koho JP 07001920 A2 19950106 Heisei, 5 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-63476 19940331. PRIORITY: JP 1993-80840 19930407.

AB **Antislip** pins, which can be fitted into **tire** treads, are prep'd. from rubbers, **silicone** resins, and ultrafine hard particles such as sand, ceramics, and fiber-reinforced resins. Kneading sand particles with an **epoxy** adhesive, then with uncured natural rubber, and **silicone** resin, and forming into pins.

IT 1344-28-1, **Alumina**, uses
 (particles; hard particle/rubber/**silicone** composite pins for **antislip** ability of **tire** treads)

RN 1344-28-1 HCAPLUS

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

- IC ICM B60C011-14
 ICS B29D030-06; B60C001-00; B60C011-16
- ICI B29K083-00, B29K105-06, B29K509-02
- CC 39-13 (Synthetic Elastomers and Natural Rubber)
- ST **antislip** pin **tire** tread; sand rubber
silicone **antislip** composite
- IT **Epoxy** resins, uses
 Phenolic resins, uses
 (adhesives; hard particle/rubber/**silicone** composite pins for **antislip** ability of **tire** treads)
- IT Adhesives
 (hard particle/rubber/**silicone** composite pins for **antislip** ability of **tire** treads)

IT Rubber, natural, uses
 Rubber, neoprene, uses
 Rubber, nitrile, uses
 Rubber, **silicone**, uses
 Siloxanes and **Silicones**, uses
 (hard particle/rubber/**silicone** composite pins for
antislip ability of **tire** treads)
 IT Ceramic materials and wares
 (particles; hard particle/rubber/**silicone** composite
 pins for **antislip** ability of **tire** treads)
 IT Sand
 (particles; hard particle/rubber/**silicone** composite
 pins for **antislip** ability of **tire** treads)
 IT **Tires**
 (treads, hard particle/rubber/**silicone** composite pins
 for **antislip** ability of **tire** treads)
 IT 1344-28-1, **Alumina**, uses
 (particles; hard particle/rubber/**silicone** composite
 pins for **antislip** ability of **tire** treads)
 IT 9003-18-3 9010-98-4
 (rubber, hard particle/rubber/**silicone** composite pins
 for **antislip** ability of **tire** treads)

L33 ANSWER 39 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1995:330869 Document No. 122:83495 **Antislipping shoe**
 outsoles. Nakamura, Masayoshi; Kimura, Shigeo (Showa Rubber,
 Japan). Jpn. Kokai Tokkyo Koho JP 06253905 A2 19940913
 Heisei, 4 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP
 1993-42618 19930303.

AB Title outsoles are prep'd. from rubber compns. contg. 10-40 phr
 hydrophilic fibers or powders having a diam. of 50-325 μm and
 10-50 phr silicic acid (salts). A vulcanized compn. contg. natural
 rubber 20, SBR 80, 297- μm KC Flock 25, and Nipsil VN 3 20 parts
 showed friction coeff. 0.80.
 IT 7631-86-9, Nipsil VN 3, uses
 (Nipsil VN 3; silicate- and hydrophilic fiber (powder)-contg.
 rubbers for **antislipping shoe** soles)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



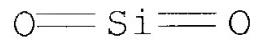
IC ICM A43B013-22
 ICS A43B013-04; C08K003-34; C08K007-02; C08L021-00
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 ST **antislipping shoe** outsole hydrophilic fiber;

- IT cellulose **silica antislapping shoe**
 outsole; friction **shoe** outsole **silica** cellulose
 Friction materials
 (silicate- and hydrophilic fiber (powder)-contg. rubbers for
antislapping shoe soles)
- IT Silicates, uses
 Synthetic fibers
 (silicate- and hydrophilic fiber (powder)-contg. rubbers for
antislapping shoe soles)
- IT Rubber, butadiene-styrene, uses
 Rubber, natural, uses
 (silicate- and hydrophilic fiber (powder)-contg. rubbers for
antislapping shoe soles)
- IT Shoes
 (outsoles, silicate- and hydrophilic fiber (powder)-contg.
 rubbers for **antislapping shoe soles**)
- IT 9004-34-6, Cellulose, uses
 (KC Flock; silicate- and hydrophilic fiber (powder)-contg.
 rubbers for **antislapping shoe soles**)
- IT 7631-86-9, Nipsil VN 3, uses
 (Nipsil VN 3; silicate- and hydrophilic fiber (powder)-contg.
 rubbers for **antislapping shoe soles**)
- IT 9003-55-8
 (rubber, silicate- and hydrophilic fiber (powder)-contg. rubbers
 for **antislapping shoe soles**)

L33 ANSWER 40 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1994:607231 Document No. 121:207231 Manufacture of
polyurethane elastomer emboss sheets for **shoe**
 soles. Nakanishi, Motoyasu (Suzuki Sogyo Kk, Japan). Jpn. Kokai
 Tokkyo Koho JP 06114852 A2 19940426 Heisei, 7 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1992-285483 19920930.

- AB The title sheets, useful for athletic **shoe** soles with
anti-slippery protrusions, are manufd. by placing
 a perforated photocured resin plate on a base sheet (e.g., of
 nonwoven), filling with a **polyurethane** elastomer,
 optionally squeezing, and heating to cure the resin.
- IT 7631-86-9, **Silica**, uses
 (tackifiers; manuf. of **polyurethane** elastomer emboss
 sheets for **shoe** soles)

RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM B29C039-10

ICI ICS A43B013-14; B29C033-16; B29C033-38; B29C039-26
 ICI B29K075-00, B29K105-08, B29L007-00, B29L031-50
 CC 38-2 (Plastics Fabrication and Uses)
 Section cross-reference(s): 39
 ST **polyurethane** elastomer **antislippery shoe**
 sole; athletic **shoe** sole **polyurethane** elastomer
 IT Leather substitutes
 (base sheets; manuf. of **polyurethane** elastomer emboss
 sheets for **shoe** soles)
 IT Magnetic substances
 Molding of plastics and rubbers
 (manuf. of **polyurethane** elastomer emboss sheets for
shoe soles)
 IT Rubber, urethane, uses
 (manuf. of **polyurethane** elastomer emboss sheets for
shoe soles)
 IT Textiles
 (nonwoven, manuf. of **polyurethane** elastomer emboss
 sheets for **shoe** soles)
 IT **Shoes**
 (outsoles, manuf. of **polyurethane** elastomer emboss
 sheets for **shoe** soles)
 IT 7631-86-9, **Silica**, uses
 (tackifiers; manuf. of **polyurethane** elastomer emboss
 sheets for **shoe** soles)

L33 ANSWER 41 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1993:627859 Document No. 119:227859 Rubber compositions for antiskid
shoe soles. Oda, Keishiro; Takino, Hiroshi; Oohara,
 Riichiro (Toyo Tire & Rubber Co, Japan). Jpn. Kokai Tokkyo Koho JP
 05154005 A2 19930622 Heisei, 4 pp. (Japanese). CODEN:
 JKXXAF. APPLICATION: JP 1991-357404 19911129.

AB Compsns. for the title use comprise 100 parts diene rubbers,
 additives, and 5-30 parts water-absorbing seed-hull, nut-shell and
 leather grinds. An antiskid compn. comprised natural rubber 30, SBR
 rubber 70, coconut shell grinds 5, **silica** 35, clay 50,
 process oil 5, zinc white 5, S 2.5, vulcanizing accelerator 1.5, and
 diethylene glycol 2 parts.
 IC ICM A43B013-04
 ICS A43B001-00; C08L005-00; C08L021-00
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 46
 ST antiskid rubber **shoe** sole; nut shell grind filled
antislapping sole; hull grind filled **antislapping**
 sole; seed grind filled **antislapping** sole; leather powder
 filled **antislapping** sole
 IT Rubber, butadiene-styrene, uses
 Rubber, natural, uses

(antiskid **shoe** sole, contg. ground nut shells and hull and leather)

IT Coconut
(shell, powd., rubber compns. contg., for antiskid **shoe** sole)

IT Friction materials
(antiskid, **shoe** sole, rubber compns. contg. ground seed hull and nut shell and leather for)

IT Seed
(hull, powd., rubber compns. contg., for antiskid **shoe** sole)

IT Leather
(powd., rubber compns. contg., for antiskid **shoe** sole)

IT 9003-55-8
(rubber, antiskid **shoe** sole, contg. ground nut shells and hull and leather)

L33 ANSWER 42 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
1993:605277 Document No. 119:205277 Rubber compositions for
shoe soles with excellent slip resistance. Michitsu,
Tatsuhiko; Moronaga, Yoshiharu (Asahi Tsusho Kk, Japan). Jpn. Kokai
Tokkyo Koho JP 05017624 A2 **19930126** Heisei, 3 pp.
(Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-194900 19910708.

AB Heat- and weather-resistant tire compns. showing hardness (JIS-K 6301, spring-type hardness tester A) 50-75 after vulcanization are obtained by blending 100 parts polyisoprene rubbers with 3-30 parts hydrogenated isoprene (I)-styrene (II) block copolymers with mol. wt. 70,000-400,000, II content 5-50%, and hydrogenation degree (HD) of I ≥70%, 10-20 parts petroleum-derived softening agents, and conventional additives. Thus, isoprene rubber 100, butadiene-styrene rubber 65, Septon (hydrogenated I-II block copolymer, II content 13%, HD of I 97%, mol. wt. 100,000) 5, activated ZnO 3, stearic acid 1, SiO₂ 30, process oil 13, S 2.5, vulcanization accelerators 4.0, and DEG 1.5 parts were blended and press molded to give a **shoe** sole showing the hardness 57, 300% modulus 40 kg/cm², and good **antislip** property and heat, cut, weather, abrasion, and bleeding resistance.

IC ICM C08L009-00
ICS C08K005-01

ICI C08L009-00, C08L053-02

CC 39-9 (Synthetic Elastomers and Natural Rubber)

ST isoprene rubber **shoe** sole; hydrogenated styrene isoprene polymer blend; petroleum softener isoprene rubber; **antislip** **shoe** sole isoprene rubber; cut resistance rubber **shoe** sole; heat resistance rubber **shoe** sole; weatherability isoprene rubber **shoe** sole; abrasion resistance rubber **shoe** sole

IT Rubber, isoprene, uses

- (contg. hydrogenated styrene-isoprene block copolymers, for **shoe** soles, with good slip and heat and abrasion resistance)
- IT Rubber, butadiene-styrene, uses
(isoprene rubber blends, contg. hydrogenated styrene-isoprene block copolymers, for **shoe** soles, with good slip and heat and abrasion resistance)
- IT Abrasion-resistant materials
Heat-resistant materials
(isoprene rubbers contg. hydrogenated isoprene-styrene block copolymers as, for **shoe** soles)
- IT Petroleum products
(softening agents, for isoprene rubbers contg. hydrogenated isoprene-styrene block copolymers, for **shoe** soles)
- IT 105729-79-1D, Isoprene-styrene block copolymer, hydrogenated (isoprene rubbers contg., for **shoe** soles, with good slip and heat and abrasion resistance)
- IT 9003-31-0
(rubber, contg. hydrogenated styrene-isoprene block copolymers, for **shoe** soles, with good slip and heat and abrasion resistance)
- IT 9003-55-8
(rubber, isoprene rubber blends, contg. hydrogenated styrene-isoprene block copolymers, for **shoe** soles, with good slip and heat and abrasion resistance)

L33 ANSWER 43 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 1993:479859 Document No. 119:79859 Deodorants for hosiery (stockings).
 Nakagawa, Momoki (Nakagawa Momoki, Japan; Takahashi Yasunori). Jpn.
 Kokai Tokkyo Koho JP 05117902 A2 19930514 Heisei, 3 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-333871 19911018.

- AB Plastic particles contg. chitins, a deodorant, and a far IR-emitting powder (natural ceramic contg. **alumina**), providing warmth in the feet, are immobilized on the sole of socks, to control odor and to **prevent foot-slipping** in the **shoes**.
- IT 1344-28-1, **Alumina**, miscellaneous
(ceramic contg., in plastic particles, for soles of stockings)
- RN 1344-28-1 HCPLUS
- CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

- IC ICM A41B011-00
 ICS A61L002-16; A61L009-12; A61N005-06
- CC 62-5 (Essential Oils and Cosmetics)
- IT Ceramic materials and wares
(**alumina**-contg., in plastic particles, for soles of stockings)

- IT Infrared sources
 (far-, **alumina**-based ceramics for, soles of stockings
 contg.)
- IT 1344-28-1, **Alumina**, miscellaneous
 (ceramic contg., in plastic particles, for soles of stockings)

L33 ANSWER 44 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1992:614341 Document No. 117:214341 Ice-skid-resistant rubber
 compositions for **tires**. Saito, Tasuku; Kurachi, Ikuo;
 Fukuyama, Yoshiki; Ishino, Yuichi (Bridgestone Corp., Japan). Jpn.
 Kokai Tokkyo Koho JP 04149253 A2 19920522 Heisei, 4 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-274249 19901012.

AB The title compns., with surface coarseness (R) > 2 μm contain
 3-150 phr fillers which have av. diam. 0.5-200 μm and are
 ultrafine particle-contg. composited powders or bicomponent
 multilayer composited powders. Thus, a natural rubber compn. contg.
 40 phr **SiO₂** contg. Unibecks S (phenolic resin) gave a
 sheet with R 6.72 μm and friction coeff. on ice 0.047; vs. 1.48
 and 0.020, resp., without the Unibecks S.

IT 7631-86-9, **Silica**, uses
 (phenolic resin contg., composites, in rubbers, for
 ice-skid-resistant **tires**)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

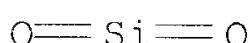


- IC ICM C08L021-00
 ICS C08K009-00
- CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST **silica** phenolic resin composite **antislip**;
tire rubber ice skid resistance; friction improver
silica phenolic resin composite
- IT Rubber, butadiene, uses
 Rubber, natural, uses
 (ice-skid-resistant, by contg. multilayered or ultrafine
 particle-contg. composites, for **tires**)
- IT **Tires**
 (rubbers for, ice-skid-resistant, by contg. multilayered or
 ultrafine particle-contg. composites)
- IT Phenolic resins, uses
 (**silica**-contg. composites, in rubbers, for
 ice-skid-resistant **tires**)
- IT Friction materials
 (antiskid, bicomponent composites, rubbers contg., for
tires)

- IT 1318-93-0, Montmorillonite, uses
 (multilayer composites with **acrylonitrile** polymers, in
 rubbers, for ice-skid-resistant **tires**)
- IT 107-13-1D, **Acrylonitrile**, polymers
 (multilayer composites with montmorillonite, in rubbers, for
 ice-skid-resistant **tires**)
- IT 7631-86-9, **Silica**, uses
 (phenolic resin contg., composites, in rubbers, for
 ice-skid-resistant **tires**)
- IT 9003-17-2
 (rubber, ice-skid-resistant, by contg. multilayered or ultrafine
 particle-contg. composites, for **tires**)
- IT 130300-50-4, Univeks S
 (**silica**-contg. composites, in rubbers, for
 ice-skid-resistant **tires**)

L33 ANSWER 45 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 1991:451666 Document No. 115:51666 Rubber compositions for
tire traction devices. Saito, Yoshiomi (Nippon
 Zeon Co., Ltd., Japan). Eur. Pat. Appl. EP 420449 A1
 19910403, 20 pp. DESIGNATED STATES: R: AT, CH, DE, FR, IT,
 LI, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1990-309963
 19900912. PRIORITY: JP 1989-241146 19890918; JP 1990-222009
 19900823.

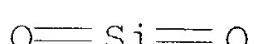
- AB A rubber compn., having excellent durability and high-load
 resistance, and useful for **tire traction** devices
 for icy or muddy roads, comprises 100 wt. parts copolymer rubber
 derived from an ethylenically unsatd. nitrile and a conjugated
 diene; 10-100 wt. parts Zn **methacrylate** (I); and 0.2-10
 wt. parts org. peroxide. Thus, hydrogenated (degree of
 hydrogenation 80%) nitrile rubber 100, I (prepd. in-situ from ZnO
 and **methacrylic** acid in 1:1.06 mol ratio) 20, and
 α,α' -bis(tert-butyperoxy-m-isopropyl)benzene 5 parts
 were compounded and press-cured at 180° for 15 min to give a
 vulcanizate showing tensile strength 565 kg/cm² and elongation 450%,
 compared with 240 and 120, resp., for a similar vulcanizate prepd.
 from nonhydrogenated nitrile rubber.
- IT 7631-86-9, **Silica**, uses and miscellaneous
 (nitrile rubber compn. contg., for **traction** devices,
 for **tires**)
- RN 7631-86-9 HCPLUS
- CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



CC ICS C08K005-09; B60C027-00
 ST 39-13 (Synthetic Elastomers and Natural Rubber)
 nitrile rubber hydrogenated **traction** device; zinc
methacrylate tire traction device;
 peroxide vulcanization hydrogenated nitrile rubber
 IT Vulcanization accelerators and agents
 (org. peroxides, for hydrogenated nitrile rubber, for
traction devices for **tires**)
 IT **Tires**
 (**traction** device for, hydrogenated nitrile rubber-zinc
methacrylate-peroxide compn. as)
 IT 13189-00-9, Zinc **methacrylate**
 (hydrogenated nitrile rubber compn. contg., **traction**
 device, for **tires**)
 IT 7631-86-9, **Silica**, uses and miscellaneous
 (nitrile rubber compn. contg., for **traction** devices,
 for **tires**)
 IT 2212-81-9
 (vulcanizing agents, for hydrogenated nitrile rubber, for
traction devices)

L33 ANSWER 46 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1991:209092 Document No. 114:209092 Rubber compositions for rubber
 chains for **tires**. Imura, Hirotugu; Ueno, Tetsuto (Toyo
 Rubber Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP
 03007742 A2 19910114 Heisei, 3 pp. (Japanese). CODEN:
 JKXXAF. APPLICATION: JP 1989-142482 19890605.

AB The title **antislapping** compns. contain (A) 3-50% [based on
 100 parts CHCl₃-Me₂CO mixt.-insol. vulcanized rubbers (W)]
 pulverized plant materials with av. diam. 0.01-5 mm and (B) mixts.
 of diene rubbers, and **SiO₂**, and/or carbon black with E <
 0.4 (A -38) (E = amt. of CHCl₃-Me₂CO mixt.-extd. vulcanized rubber
 based on 100 parts W; A = sum of carbon black and 1/2 **SiO₂**
 amts. based on 100 parts W). Thus, a **tire** equipped with a
 chain prep'd. from a compn. contg. natural rubber 50, SBR 50, carbon
 black 50, and sawdust (with av. diam. 0.05-0.25 mm) 7 parts showed
 hardness at -5° 71 and good ice and snow skid resistance.
 IT 7631-86-9, **Silica**, uses and miscellaneous
 (rubbers contg. sawdust and, for **antislip** chains for
tires)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L009-00

ICS C08K003-04; C08K003-36
 ICA B60C011-14; B60C027-00
 ICI C08L009-00, C08L097-00
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 ST ice skid resistance **tire** chain; snow skid resistance
tire chain; sawdust contg rubber chain **tire**
 IT **Tires**
 (rubber chains for, fine sawdust-contg., with ice and snow skid
 resistance)
 IT Carbon black, uses and miscellaneous
 (rubbers contg. sawdust and, for **antislip** chains for
 tires)
 IT Sawdust
 (rubbers contg., for **antislip** chains for **tires**
)
 IT Chains, mechanical
 (rubbers, fine sawdust-contg., **antislapping**, for
 tires)
 IT 7631-86-9, **Silica**, uses and miscellaneous
 (rubbers contg. sawdust and, for **antislip** chains for
 tires)

L33 ANSWER 47 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1991:104100 Document No. 114:104100 Rubber compositions for chains for
slip prevention of tires. Hayashi,
 Hirofumi; Imura, Hirotugu; Ueno, Tetsuto (Toyo Rubber Industry Co.,
 Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02284936 A2
 19901122 Heisei, 4 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1989-109875 19890427.

AB The title compns. contain diene rubbers, **SiO₂** and/or
 carbon black, and 5-80 parts/ 100 parts vulcanized rubber (after
 extn. with Me₂CO/CHCl₃) inorg. fillers having av. particle diam.
 0.01-0.5 mm, and have E <0.4 (A-38) (E is the amt. of rubber after
 extn. of 100 parts vulcanized rubber with Me₂CO/CHCl₃ and A is the
 sum of amt. of carbon black and 50% of amt. of **silica** per
 100 part extd. rubber after extn. with Me₂CO/CHCl₃). Thus, a compn.
 contg. natural rubber 50, butadiene rubber 50, carbon black 50, and
Al₂O₃ (diam. 0.05-0.25 mm) 11 parts showed A 51.5 and E 4.5
 and hardness at -5° 73, and ice-skid index 8% and snow-skid
 index 9% higher than those of a compn. prep'd. without **Al₂O₃**
 .
 IT 1344-28-1, **Alumina**, uses and miscellaneous
 (diene rubbers contg. carbon black or **silica** and, for
 chains, for **slip prevention of tires**
)
 RN 1344-28-1 HCAPLUS
 CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 7631-86-9, **Silica**, uses and miscellaneous
 (diene rubbers contg. hard inorg. fillers and, for chains, for
slip prevention of tires)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L009-00
 ICS B60C027-16; C08K003-00; C08K003-04; C08K003-36
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST **tire** chain diene rubber; **alumina** contg rubber
 slip resistant
 IT **Tires**
 (chains for, diene rubbers contg. hard inorg. fillers and carbon
 black and/or **silica**, for **slip prevention**)
 IT Granite, uses and miscellaneous
 (diene rubbers contg. carbon black or **silica** and, for
 chains, for **slip prevention**)
 IT 1344-28-1, **Alumina**, uses and miscellaneous
 (diene rubbers contg. carbon black or **silica** and, for
 chains, for **slip prevention of tires**
)
 IT 7440-44-0, Carbon black, uses and miscellaneous 7631-86-9,
Silica, uses and miscellaneous
 (diene rubbers contg. hard inorg. fillers and, for chains, for
slip prevention of tires)

L33 ANSWER 48 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1991:104098 Document No. 114:104098 Tread composition for
tires with ice and snow skid resistance. Nomura, Yoshiyuki;
 Matsura, Hiroyoshi (Toyo Rubber Industry Co., Ltd., Japan). Jpn.
 Kokai Tokkyo Koho JP 02274740 A2 19901108 Heisei, 3 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-95950 19890414.
 AB The title compns. contain (A) diene rubbers, (B) **SiO₂**
 and/or carbon black, and (C) 3-50% (based on 100 parts vulcanized
 rubbers after Me₂CO-CHCl₃ mixt. extn.) pulverized materials of
 av.-diam. 0.01-5 mm with E > 1.2(D - 38) (D = the sum of carbon
 black amts. and 50% **silica** amts.; E = the amts. of extd.
 rubbers; both based on 100 parts vulcanized rubbers after
 Me₂CO-CHCl₃ mixt. extn.). Thus, a compn. contg. natural rubber 50,
 butadiene rubber 50, carbon black 65, naphthenic oil 35, and 0.05-
 to 0.25-mm sawdust 35 parts showed D 71.2, E 50.2, hardness
 (-5°) 60, and ice-skid index 121 and snow-skid index 98,

compared with 52.6, 10.5, 72, 100, and 100, resp., for a natural rubber tread without sawdust.

IT 7631-86-9, **Silica**, uses and miscellaneous
 (diene rubbers contg. sawdust and, for **tire** treads,
antislip)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L009-00
 ICS C08K003-04; C08K003-22
 ICA B60C001-00
 ICI C08L009-00, C08L097-00
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 ST sawdust **tire** tread **antislip**; diene rubber
tire tread **antislip**; snow skid resistance tread
 sawdust
 IT Sawdust.
 (diene rubbers contg. carbon black or **silica** and, for
tire treads, with ice and snow skid resistance)
 IT Carbon black, uses and miscellaneous
 (diene rubbers contg. sawdust and, for **tire** treads,
antislip)
 IT **Tires**
 (treads, diene rubbers contg. carbon black or **silica**
 and sawdust, for ice- and snow-skid resistance)
 IT 7631-86-9, **Silica**, uses and miscellaneous
 (diene rubbers contg. sawdust and, for **tire** treads,
antislip)

L33 ANSWER 49 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1991:104097 Document No. 114:104097 Tread compositions for
tires with ice- and snow-skid resistance. Hayashi,
 Hirofumi; Matsumoto, Hiroshi; Sueyoshi, Kazuhiko (Toyo Rubber
 Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02274739 A2
 19901108 Heisei, 3 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1989-95949 19890414.

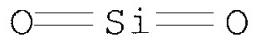
AB The title compns. contain (A) diene rubbers, (B) **SiO₂**
 and/or carbon black, and (C) 3-50% (based on 100 parts vulcanized
 rubbers after Me₂CO-CHCl₃ mixt. extn.) pulverized materials of
 av.-diam. 0.01-5 mm with E < 0.4 (D - 38) (D = the sum of carbon
 black amts. and 50% of **silica** amts.; E = the amts. of
 extd. rubbers; both based on 100 parts vulcanized rubbers after
 Me₂Co-CHCl₃ mixt. extn.). Thus, a compn. of natural rubber 50,
 butadiene rubber 50, carbon black 65, naphthenic oil 7, and 0.05- to

0.25-mm sawdust 6 parts showed D 69.9, E 10.1, hardness (-5°) 78, ice-skid index 122, and snow-skid index 114, compared with 52.6, 10.5, 72, 100, and 100, resp., for a control from natural rubber without sawdust.

IT 7631-86-9, **Silica**, uses and miscellaneous
(diene rubbers contg. sawdust and, for **tire** treads,
with ice- and snow-skid resistance)

RN 7631-86-9 HCPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L009-00
ICS B60C001-00; C08K003-04; C08K003-36

ICI C08L009-00, C08L097-00

CC 39-13 (Synthetic Elastomers and Natural Rubber)

ST **antislip tire** tread sawdust; snow skid
resistance tread sawdust; diene rubber sawdust tread
antislip

IT Sawdust
(diene rubbers contg. carbon black or **silica** and, for
tire treads, with ice- and snow-skid resistance)

IT Carbon black, uses and miscellaneous
(diene rubbers contg. sawdust and, for **tire** treads,
with ice- and snow-skid resistance)

IT **Tires**
(treads, diene rubbers contg. carbon black or **silica**
and sawdust, for ice- and snow-skid resistance)

IT 7631-86-9, **Silica**, uses and miscellaneous
(diene rubbers contg. sawdust and, for **tire** treads,
with ice- and snow-skid resistance)

L33 ANSWER 50 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
1990:554163 Document No. 113:154163 **Antislip** materials and
tires therewith. Ikeda, Takeshi (Japan). Jpn. Kokai Tokkyo
Koho JP 02170841 A2 19900702 Heisei, 9 pp. (Japanese).
CODEN: JKXXAF. APPLICATION: JP 1988-326561 19881224.

AB The materials contain rubber and inorg. fillers coated with Group IB to IVB elements in the 4th or 5th periods or their alloys. Thus, a **tire** with its tread contg. an antiskid belt prep'd. from a natural rubber compn. contg. 100% brass-coated **silica** sand showed good durability (70-80% residual brass after 103 km).

IT 7631-86-9
(sand, brass-coated, rubber contg., for antiskid belts for
tire treads)

RN 7631-86-9 HCPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)



IC ICM C08L021-00
 ICS B60C011-14; B60C027-20; C08K009-02; C09K003-14
 CC 39-13 (Synthetic Elastomers and Natural Rubber)
 Section cross-reference(s): 56
 ST antiskid belt **tire** tread; brass coated **silica**
 sand **antislip**
 IT Belts
 (antiskid, rubber contg. brass-coated **silica** sand for,
 for **tire** treads)
 IT Sand
 (brass-coated, rubber contg., for antiskid belts for **tire**
 treads)
 IT **Tires**
 (treads, antiskid belts for, from rubber contg. brass-coated
silica sand)
 IT 7631-86-9
 (sand, brass-coated, rubber contg., for antiskid belts for
tire treads)
 IT 12597-71-6, Brass, uses and miscellaneous 12621-84-0
 (**silica** sand coated with, rubber contg., for antiskid
 belts for **tire** treads)

L33 ANSWER 51 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN
 1989:424802 Document No. 111:24802 **Tire** tread compositions
 containing modified carbon black and silane couplers. Takeshita,
 Michitaka; Sugawara, Toshio (Bridgestone Corp., Japan). Jpn. Kokai
 Tokkyo Koho JP 63270751 A2 **19881108** Showa, 7 pp.
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-104377 19870430.
 AB The compns. contain 100 parts SBR contg. 25-60% styrene (I) or
 blends of ≥20% of the SBR and (halogenated) butyl rubbers or
 nitrile rubbers, 50-250 parts carbon black having N adsorption sp.
 surface area (NSA) 200-500 m²/g, 24M4 DBP adsorption (DBPA) 90-125
 mL/100 g, and colorability (tint value, V_t) 100-150, and modified to
 give phenolic OH concn. (Ch) 3.5 + 1012 - 8.1 + 1014/m²
 and pH value 3-5, 0.80 part **silica**, and silane couplers
 comprising Y₃SiC_nH_{2n}SmC_nH_{2n}SiY₃ or Y₃SiC_nH_{2n}X₁ (X₁ = NO, SH, NH₂,
epoxy, vinyl, Cl, imido; Y = C₁₋₄ alkyl or alkoxy, Cl; n, m
= 1-6) and Y₃SiC_nH_{2n}SmX₂ [X₂ = COC(CH₃):CH₂, CSNMe₂, or
 2-benzothiazolyl]; the couplers are used in wt. amt. equal to (4.05
+ 10-5 to 4.65 + 10-3) + wt. carbon black +
 NSA. A compn. of SBR (contg. 40.0% I) 100, O-air plasma-treated
 carbon black (NSA 285 m²/g, DBPA 93 mL/100 g, V_t 148, Ch 5.1 +

1012/m², pH 3.2) 1008 [(EtO)₃SiPr]₂S₄ 1.0, arom. oil 80, stearic acid 1.0, ZnO 3.0, or antioxidant 1.0, S 1.5, and vulcanization accelerator 1.0 part showed abrasion resistance 33% higher and **traction** 16% higher than a compn. contg. SAF carbon black.

- IC ICM C08L009-00
 CC ICS C08K003-04; C08K003-36; C08K005-54; C08L023-22
 39-13 (Synthetic Elastomers and Natural Rubber)
 ST abrasion resistance **tire** carbon black; silane coupler
tire abrasion resistance; plasma treated carbon black
tire; SBR tread silane coupler black
 IT Plasma, chemical and physical effects
 (carbon black treated by, rubbers contg. silane couplers and, for
 tire treads)
 IT Carbon black, uses and miscellaneous
 (plasma-treated, rubbers contg., with silane couplers, for
 tire treads)
 IT Coupling agents
 (sulfur- and/or nitrogen-contg. silanes, rubbers contg.
 plasma-treated carbon black and, for **tire** treads)
 IT Abrasion-resistant materials
 (**tire** treads contg. plasma-treated carbon black and
 silane couplers)
 IT Tires
 (treads, rubbers contg. plasma-treated carbon black and silane
 couplers for, with good **traction** and abrasion
 resistance)
 IT 40372-72-3 113946-60-4 113946-66-0 119388-54-4 119388-55-5
 (couplers, rubbers contg. plasma-treated carbon black and, for
 tire treads)

L33 ANSWER 52 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1988:572008 Document No. 109:172008 **Antislippery** materials
 for high-heel **shoes**. (Kokusai Gijutsu Boeki K. K., Japan).

Jpn. Kokai Tokkyo Koho JP 62183339 A2 19870811 Showa, 4
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-24964
 19860208.

- AB The materials comprise rubber dispersions (in org. solvents) and
 solids comprising acids (e.g., oxalic acid), abrasives (ceramics,
 Ni, steel), and powd. rubbers. The continuous phases were
 preferably prep'd. from 55-75% solvents and 25-45% nonvolatile
 components of 15-80:20-85 hydrocarbon resin-rubbers.
 IT 7631-86-9, **Silica**, uses and miscellaneous
 (abrasive, rubber dispersions contg., **antislip**, for
 shoe heels)
 RN 7631-86-9 HCAPLUS
 CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O==Si==O

- IC ICM B32B025-04
 CC 39-15 (Synthetic Elastomers and Natural Rubber)
 ST **antislippery** material heel **shoe**; abrasive rubber dispersion **shoe** heel; friction material **shoe** heel; ceramic abrasive rubber heel; nickel abrasive rubber heel; steel abrasive rubber heel; acid solid rubber heel
 IT Rubber, butadiene-styrene, uses and miscellaneous
 Rubber, natural, uses and miscellaneous
 Rubber, neoprene, uses and miscellaneous
 Rubber, nitrile, uses and miscellaneous
 Rubber, **silicone**, uses and miscellaneous
 Rubber, synthetic
 (org. dispersions of, solid acid- or abrasive-contg., for **shoe** heels)
 IT Fluoropolymers
 (rubber blends, dispersions of, solid acid- or abrasive-contg., for **shoe** heels)
 IT Abrasives
 (rubber dispersions contg., **antislip**, for **shoe** heels)
 IT Friction materials
 (solid acid- or abrasive-contg. rubber dispersions, for **shoe** heels)
 IT Acids, uses and miscellaneous
 (solid, rubber dispersions contg., **antislip**, for **shoe** heels)
 IT 7440-02-0, Nickel, uses and miscellaneous 7440-44-0, Carbon, uses and miscellaneous 7631-86-9, **Silica**, uses and miscellaneous 12597-69-2, Steel, uses and miscellaneous
 (abrasive, rubber dispersions contg., **antislip**, for **shoe** heels)
 IT 56-86-0, uses and miscellaneous 77-92-9, Citric acid, uses and miscellaneous 144-62-7, Oxalic acid, uses and miscellaneous 12228-79-4, Tetraboric acid
 (rubber dispersions contg., **antislip**, for **shoe** heels)
 IT 9003-18-3 9003-55-8 9010-98-4
 (rubber, org. dispersions of, solid acid- or abrasive-contg., for **shoe** heels)

L33 ANSWER 53 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1987:599774 Document No. 107:199774 Leather substitutes with rough surfaces. Wlasitsch, Gyula; Rusznyak, Rezso; Tarkanyi, Laszlo; Murlasits, Gyula; Csernyanszky, Imre; Takacs, Arpad; Jando Szabo, Margit (GRABOPLAST Gyori Pamutszovo es Muborgyar, Hung.). Hung.

Teljes HU 41462 A2 **19870428**, 9 pp. (Hungarian). CODEN:
HUXXBU. APPLICATION: HU 1985-73 19850110.

AB **Antislipping** leather substitutes are manufd. by using sheets bearing heat-resistant granules (particle size 80-250 μ) bonded by adhesives as release substrates on which pigmented polymer plastisols, dispersions, or solns. are baked. A mixt. of emulsion PVC 100, DOP 75, stabilizer 2, epoxidized vegetable oil 2, and pigment 3 g was coated (0.6 mm) on a release sheet bearing 900 g/m² **corundum** (particle size 80 μ) and heated 3 min at 190° to give a suedelike leather substitute, useful for sport **shoe** uppers.

IC ICM D06N003-04
ICS B29C039-00

CC 38-2 (Plastics Fabrication and Uses)

ST suede leather substitute; **corundum** release sheet; release sheet leather substitute rough; leather substitute nonskid manuf; PVC leather substitute nonskid

L33 ANSWER 54 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
1986:407621 Document No. 105:7621 Methods and means for enhancing frictional grip between surfaces. Horton-Wellings, Joseph (UK). Brit. UK Pat. Appl. GB 2156707 A1 **19851016**, 4 pp.
(English). CODEN: BAXXDU. APPLICATION: GB 1985-7724 19850325.
PRIORITY: GB 1984-7552 19840323.

AB The friction between 2 cooperable surfaces is improved by incorporating an interlayer contg. randomly oriented fibers. The interlayer is shaped to soles for footwear to **prevent slipping**. A typical compn. contained Santoweb D (fibrous cellulosic mixt.) 10, **polyurethane** 75, and **silica VN3** 15 parts.

IC ICM B05D005-00

CC 38-3 (Plastics Fabrication and Uses)

ST friction material fibrous layer; **shoe** sole cellulosic compn; **polyurethane** fibrous compn friction interlayer

IT Urethane polymers, uses and miscellaneous
(adhesives, contg. fibers, for **shoe** soles)

IT Friction materials

(polymer adhesive matrix contg. fibers, for **shoe** soles)

IT Synthetic fibers

(cellulosic, friction materials contg., for **shoe** soles)

IT **Shoes**

(soles, friction materials for, polymer adhesive matrix contg.
fibers as)

IT 9002-86-2

(adhesive, contg. fiber, for **shoe** soles)

IT 102819-66-9

(adhesives, contg. fibers, for **shoe** soles)

L33 ANSWER 55 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1983:409792 Document No. 99:9792 Ceramic spikes for snow **tires**
 or **shoes**. (Sumitomo Electric Industries, Ltd., Japan).
 Jpn. Kokai Tokkyo Koho JP 58015077 A2 **19830128** Showa, 4
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-112785
 19810718.

AB Colored ceramic spikes for **slipping prevention**
 have porosity \leq 2% and contain grain growth inhibitor 0.05-1,
 metallic oxides 0.01-1%, with the balance **Al2O3**. Thus, a
 mixt. contg. MgO 0.2, CoO 0.5%, and the balance **Al2O3** was
 compression-molded and sintered in vacuum at 1550° for 1 h to
 give blue ceramic spikes having porosity 1.5% and high abrasion
 resistance.
 IC C04B035-10; A43C015-02; B60C011-16
 CC 57-2 (Ceramics)
 ST **alumina** spike snow **tire**; magnesia
alumina snow **tire** spike; cobalt oxide
alumina spike
 IT Ceramic materials and wares
 (**alumina**, with magnesia and cobalt oxide, spikes from,
 for snow **tires**, with high abrasion resistance)
 IT 1307-96-6, uses and miscellaneous
 (coloring additive, for sintered **alumina** spikes, for
 snow **tires**)
 IT 1309-48-4, uses and miscellaneous
 (grain growth inhibitor, in sintered **alumina** spikes,
 for snow **tires**)

L33 ANSWER 56 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1983:409789 Document No. 99:9789 Ceramic spikes for snow **tires**
 . (Sumitomo Electric Industries, Ltd., Japan). Jpn. Kokai Tokkyo
 Koho JP 58015075 A2 **19830128** Showa, 3 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 1981-112783 19810718.

AB Sintered ceramic spikes for **slipping prevention**
 contain MgO, Y2O3, and/or ZrO2 0.05-1, TiC 0.5-15%, with the balance
Al2O3. Thus, **Al2O3** powder (av. diam. 0.5 μ)
 was mixed with MgO 0.1 and TiC 5%, compression-molded, and sintered
 in vacuum at 1550° for 1 h to make black **tire**
 spikes. The spikes were put into automobiles **tires** and
 had high abrasion resistance.
 IC C04B035-10; A43C015-02; B60C011-16
 CC 57-2 (Ceramics)
 ST **alumina** spike snow **tire**; magnesia
alumina snow **tire** spike; titanium carbide
alumina ceramic spike
 IT Ceramic materials and wares
 (**alumina**, with magnesia and titanium carbide, spikes
 from, for snow **tires**, with high abrasion resistance)

IT 1309-48-4, uses and miscellaneous 12070-08-5
 (in **alumina** ceramic spikes, for snow **tires**)

L33 ANSWER 57 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1983:409788 Document No. 99:9788 Ceramic spikes for snow **tires**
 or **shoes**. (Sumitomo Electric Industries, Ltd., Japan).
 Jpn. Kokai Tokkyo Koho JP 58015074 A2 **19830128** Showa, 3
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1981-110175
 19810714.

AB Ceramic spikes for **slipping prevention** have
 relative d. \geq 98% and high abrasion resistance and contain
 MgO, NiO, Y2O3, and/or Cr2O3 0.05-1, ZrO2 and/or HfO2 1.5-50%, with
 the balance **Al2O3**. Thus, a mixt. contg. **Al2O3**
 83.7, ZrO2 16, and MgO 0.3% was molded, dried, and sintered at
 1500° to give ceramic spikes having high abrasion resistance.

IC C04B035-10

ICA A43B005-00; B60C011-16

CC 57-2 (Ceramics)

ST **alumina** spike snow **tire**; zirconia
alumina spike snow **tire**; magnesia **alumina**
 spike snow **tire**

IT Ceramic materials and wares

(**alumina**, with magnesia and zirconia, spikes from, for
 snow **tires**, with high abrasion resistance)

IT 1314-23-4, uses and miscellaneous
 (in **alumina** ceramic spikes, with magnesia, for snow
tires)

IT 1309-48-4, uses and miscellaneous
 (in **alumina-zirconia** ceramic spikes, for snow
tires)

L33 ANSWER 58 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1979:24555 Document No. 90:24555 Rubber mixture or blend with improved
 gripping **traction**. Kloetzer, Erhard; Kuhner, Peter
 (Metzeler Kautschuk A.-G., Fed. Rep. Ger.). Patentschrift (Switz.)
 CH 606233 **19781031**, 4 pp. (German). CODEN: SWXXAS.
 APPLICATION: CH 1975-15811 19751204.

AB Rubber compns. with improved **traction** on dry and wet
 pavements and ice contain 10-150 phr pptd. silicic acid, 0-100 phr
 carbon black, and 5-50 phr trialkoxysilane coupler-treated
SiC, sand, or quartz, particle size >0.01 mm. Thus, 50:50
 butadiene rubber-SBR **tire** treads contg. 120 phr pptd.
 silicic acid and 20 phr **SiC** treated with 6 phr
 trialkoxysilane have relative skid resistance on wet and dry ice 121
 and 128, resp., and relative braking on wet pavement 113, 112, and
 109 at 40, 60, and 80 km/h, resp., compared with 100 each in the
 absence of **SiC**.

IT 409-21-2, uses and miscellaneous

(fillers, silane-treated, for rubber for improved traction)

RN 409-21-2 HCAPLUS

CN Silicon carbide (SiC) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC C08L007-00

CC 38-9 (Elastomers, Including Natural Rubber)

ST skid resistance rubber filler; **silicon carbide**
filler rubber; silicic acid filler rubber; silane coupler filler
rubber; **tire** tread skid resistance

IT Coupling agents

(alkoxysilanes, for **silicone** carbide fillers for
rubber)

IT **Tires**

(treads, fillers for rubber for, for improved **traction**)

IT 7803-62-5D, derivs.

(couplers, for **silicone** carbide fillers for rubber)

IT 1343-98-2

(fillers, for rubber for improved **traction**)

IT 409-21-2, uses and miscellaneous

(fillers, silane-treated, for rubber for improved
traction)

IT 7732-18-5, ice

(rubber with improved **traction** on, fillers for)

L33 ANSWER 59 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN

1973:85628 Document No. 78:85628 Glycerol-containing antiaging
dressing pastes for rubber. Snoek, Helmut (Gustav Snoek, Chemische
Fabrik). Ger. Offen. DE 2105465 **19721019**, 12 pp.

(German). CODEN: GWXXBX. APPLICATION: DE 1971-2105465 19710205.

AB The title pastes, which prevented embrittlement and crack formation
on rubber surfaces and were useful for **tires**, consisted of
glycerol [56-81-5], diethylene glycol (II) [111-46-6] or
polyethylene glycol, C16-18 fatty alcs., emulsifiers,
silica [7631-86-9], and H₂O. Thus, a paste, which
also facilitated the mounting and **prevented**
slipping of **tires** on the rims, consisted of 98%
glycerol 10, II 40, silicic acid (87% **SiO₂** content, BET
surface 230 m²/g, av. primary particle size 18 μm and secondary
particle size 10 μm) 1.5, 1:1 C16-C18 fatty alc. mixt. 7.0, 1:1 Na
cetyl sulfate-Na stearyl sulfate mixt. (as 37% aq. soln.,
emulsifier) 2.162, epoxidized soybean oil (corrosion inhibitor) 2,
and H₂O balance to 100 kg.

IT 7631-86-9, uses and miscellaneous

(antiaging compns. contg., for rubbers)

RN 7631-86-9 HCAPLUS

CN Silica (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

O==Si==O

IC C09G
 CC 38-14 (Elastomers, Including Natural Rubber)
 ST glycerol antiaging rubber; **polyethylene** glycol antiaging rubber; **tire** aging prevention; dressing antiaging rubber; fatty alc antiaging rubber
 IT **Tires**
 (aging prevention of rubbers for, fatty alcs.-glycerol-glycol-
 silica compns. for)
 IT Rubber, natural, uses and miscellaneous
 Rubber, synthetic
 (aging prevention of, glycerol-glycol-fatty alcs.-**silica**
 compns. for)
 IT 56-81-5, uses and miscellaneous 111-46-6, uses and miscellaneous
 7631-86-9, uses and miscellaneous 25322-68-3
 (antiaging compns. contg., for rubbers)

L33 ANSWER 60 OF 62 HCAPLUS COPYRIGHT 2004 ACS on STN
 1972:155298 Document No. 76:155298 Sponge rubber sole containing
silicon carbide for **preventing**
slippage. Takahashi, Akira; Nemoto, Gentaro (Showa Rubber
 Co., Ltd.). U.S. US 3639300 19720201, 1 pp. (English).
 CODEN: USXXAM. APPLICATION: US 1968-716308 19680327.

AB A sponge rubber heel or sole was prep'd. from SBR 100, vulcanizing
 agent 2, accelerator 2, activator 6, reinforcing filler 75, blowing
 agent 6, and **SiC** 20%. The filled sponge had sp. gravity
 0.60, Shore hardness 52, tensile strength 51 kg/cm², and elongation
 350%.
 IT **409-21-2**, uses and miscellaneous
 (**shoe** heels and soles contg., for **preventing**
 slippage)
 RN 409-21-2 HCAPLUS
 CN Silicon carbide (**SiC**) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC A43B; C08C; C08D
 NCL 260002500R
 CC 38 (Elastomers, Including Natural Rubber)
 ST sponge sole heel; **silicon carbide** filler;
 carbide filled rubber; rubber sponge sole; **shoe** sole
 nonslip; slipfree rubber sole
 IT Rubber, butadiene-styrene, uses and miscellaneous
 (cellular, **shoe** heels and soles, contg. **silicon**
 carbide for **preventing** **slippage**)

IT **Shoes**

(heels and soles, rubber foam contg. **silica** carbide,
for **preventing slippage**)

IT 409-21-2, uses and miscellaneous

(**shoe** heels and soles contg., for **preventing
slippage**)

L33 ANSWER 61 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN

1971:407145 Document No. 75:7145 **Anti-slip** agents

for rubbers and plastics. Okage, Hitoshi; Soga, Shuzo; Kusakari,
Toshikama Jpn. Tokkyo Koho JP 45030211 B4 **19700930** Showa,
3 pp. (Japanese). CODEN: JAXXAD. APPLICATION: JP 19650708.

AB The skid-resistant rubber and nylon 11 soles were prep'd. by
incorporating 30-60% emery, Alundum or Carborundum, and 5-20% CaCO₃,
CaO, CaSO₄, feldspar, or fluorspar into the rubber stock or
softened nylon. The well blended mixts. were vulcanized or molded
to give the soles.

IT 409-21-2, Carborundum **1344-28-1**, Alundum
(nylon-rubber compns. contg., for **shoe** soles)

RN 409-21-2 HCPLUS

CN Silicon carbide (SiC) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 1344-28-1 HCPLUS

CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

NCL 25A1

CC 38 (Elastomers, Including Natural Rubber)

ST skid resistance rubber sole; nylon sole skid resistance; emery skid
resistant sole; Alundum skid resistant sole; Carborundum skid
resistant sole; **antislip** rubber nylon

IT Rubber, synthetic

Rubber, uses and miscellaneous

Nylon, uses and miscellaneous

(**shoe** soles, contg. abrasive materials, skid-resistant)

IT **Shoes**

(soles for, from abrasive materials-contg. nylon and rubber)

IT 409-21-2, Carborundum **1344-28-1**, Alundum

12415-34-8, Emery

(nylon-rubber compns. contg., for **shoe** soles)

L33 ANSWER 62 OF 62 HCPLUS COPYRIGHT 2004 ACS on STN

1933:66860 Document No. 27:66860 Original Reference No. 27:6021f-g

Anti-slip rubber compositions. (Azo A.-G.). GB

389238 **19330316** (Unavailable). APPLICATION: GB .

AB A compn. suitable for **tires**, etc., comprises a hard
substance, e. g., emery, Carborundum, **corundum**, covered

with a stiff binding agent, adherent both to the base material and to rubber, which is admixed with rubber, the mixt. being then vulcanized. Binding agents are natural or artificial resins (particularly phenol-S or amino-S resins which act as vulcanizing agents or accelerators) and (or) heavy metal salts of org. OH compds., e. g., Pb alcoholate, phenolate, glycerate, guaiacolate, cresolate and naphthalate. C black or pigments may also be admixed. Cf. C. A. 26, 4981.

CC 30 (Rubber and Allied Substances)
IT **Tires**
(comps. for)

=> d 141 1-4 ti

L41 ANSWER 1 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI **Coating** agents for special effect surface **coatings** containing **polyurethane** and polyether/**polyurethane** copolymer useful for deposition of skin sympathetic, pleasing and velvety-like **coatings**.

L41 ANSWER 2 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Unvulcanized rubber production providing vulcanized rubber with superior hysteresis, used for **tires**, comprises non-productive mixing of unvulcanized rubber, carbon black and xanthogen **polysulfide** at elevated temperature.

L41 ANSWER 3 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Non-slip **coating** prodn., useful for back of carpet, **shoes**, etc. - comprises solid organic polymer mixed in grinding device with organic solid abrasive.

L41 ANSWER 4 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
TI Rubbery elastic compsn. having high **anti-slipping** ability - obtd. by **coating** surfaces of fine ultra-hard e.g. **silicon carbide** with less hard agent e.g. phenolic resin and blending to rubber.

=> d 141 1-4 max

L41 ANSWER 1 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2003-560568 [53] WPIX
DNC C2003-151251
TI **Coating** agents for special effect surface **coatings** containing **polyurethane** and polyether/**polyurethane** copolymer useful for deposition of skin sympathetic, pleasing and velvety-like **coatings**.

DC A25 A82 G02 P42 P77
 IN HAEFNER, S; HUMMEL, H
 PA (STAEN) STAEDTLER GMBH & CO KG J S
 CYC 31
 PI EP 1300451 A2 20030409 (200353)* DE 8p C09D175-04
 R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU
 LV MC MK NL PT RO SE SI SK TR
 DE 10149151 A1 20030430 (200353) C09D005-02
 JP 2003192983 A 20030709 (200354) 7p C09D175-04
 ADT EP 1300451 A2 EP 2002-21412 20020925; DE 10149151 A1 DE
 2001-10149151 20011004; JP 2003192983 A JP 2002-291288 20021003
 PRAI DE 2001-10149151 20011004
 IC ICM C09D005-02; C09D175-04
 ICS B05D007-24; B43K023-008; C08J005-16; C09D175-08; C09D183-04;
 C09D191-06
 AB EP 1300451 A UPAB: 20030820
 NOVELTY - Aqueous **polyurethane** dispersions and/or
 polyether/**polyurethane** copolymer dispersions for
coating agents with improved surface adhesion and covering
 power. Improved but special effects can be obtained, e.g. skin
 sympathetic **coatings** with a slide resistant surface and
 good grip and a very pleasant soft-grip effect.
 DETAILED DESCRIPTION - Aqueous **polyurethane**
 dispersions and/or polyether/**polyurethane** copolymer
 dispersions for **coating** agents with improved surface
 adhesion and covering power. The dispersions may also contain:
 (a) wetting agent;
 (b) defoamer if required;
 (c) filler;
 (d) colorant;
 (e) lubricant;
 (f) thickening agent; and
 (g) other additives.
 An INDEPENDENT CLAM is included for a **coating**
 containing (wt.%):
 (1) **polyurethane** (0.10-25);
 (2) polyether/**polyurethane** copolymer () (5-20);
 (3) N-methylpyrrolidone (0.01-5);
 (4) wetting agent;
 (5) defoamer;
 (6) filler (0.05-40); and optionally
 (7) colorant;
 (8) lubricant;
 (9) thickening agent; and/or
 (10) other additives.
 USE - The CA is useful as an effect **coating**, for
 deposition of skin sympathetic, pleasing and velvety-like
coatings on solid products coming into direct contact with

the skin, or which are **antislip** or aufzubewahren (sic) (claimed). The CA is useful as a surface **coating** agent for rod- or bar-shaped products such as wood, metal or synthetic plastic materials, especially for writing, marking, or malgerate (sic) (claimed) and for cosmetic articles (claimed).

ADVANTAGE - The CA forms a skin sympathetic, pleasing soft and velvety-like surface **coating** of good quality, showing good adhesion, good covering power and avoids the drawbacks of previous **coatings**, i.e. hard and smooth surfaces which after long contact with the hand lead to **tiredness** and tensing up.

Dwg.0/0

TECH EP 1300451 A2 UPTX: 20030820

TECHNOLOGY FOCUS - POLYMERS - Preferred Components: a **coating** agent (CA) containing (wt.%):

- (1) aqueous **polyurethane** dispersion (0.5-50) and/or polyether/**polyurethane** copolymer dispersion (30-50) containing (a) to (g) (0.05-40);
- (2) a CA containing aqueous **polyurethane** dispersion (1-12) and polyether/**polyurethane** copolymer dispersion (35-50) containing **silicone** or polyether/siloxane (0.05-0.25), filler (4-45), colorant (0.3-25) and other additives (0.5-3);
- (3) a colorless or clear CA containing a **polyurethane** dispersion (40-50) and a polyether/**polyurethane** copolymer (40-50) containing **silicone** or polyether/siloxane (0.1-0.2), wax, especially **polyethylene** and/or polypropylene wax (5-15), and thickening agent or other additives;
- (4) a **polyurethane** dispersion containing (wt.%) **polyurethane** (30-45) and a polyether/**polyurethane** dispersion containing polyether/**polyurethane** copolymer (30-40) and N-methylpyrrolidone (0.05-5) and/or other additives in water (55-70) as dispersing agent;
- (5) a CA containing **silicone**, especially polyether/siloxane and/or polysiloxane as wetting agent or adhesion aid and/or a defoamer;
- (6) a CA containing talcum, barium sulfate and/or titanium dioxide as filler and/or colorant;
- (7) a CA containing teflon wax, **polyethylene** wax and/or polypropylene wax.

ABEX EP 1300451 A2 UPTX: 20030820

EXAMPLE - No specific examples given.

FS CPI GMPI

FA AB

MC CPI: A05-G01E; A05-G03; A12-B01K; A12-D05B; A12-V04; G02-A04; G02-A05

PLE UPA 20030820

[1.1] 018; P1592-R F77 D01; S9999 S1025 S1014

[1.2] 018; P1058-R P1592 P0964 H0260 F34 F77 H0044 H0011 D01

[1.3] 018; ND01; Q9999 Q7114-R; K9449; K9927; B9999 B5367 B5276;
K9552 K9483; K9574 K9483; K9609 K9483; K9712 K9676; Q9999
Q8231 Q8173

[1.4] 018; G3190 R01541 D00 F80 O- 6A Mg 2A Si 4A; R01739 D00
F60 O- 6A S- Ba 2A; R01966 D00 F20 Ti 4B Tr O- 6A; A999
A237; A999 A760; A999 A771; A999 A102 A077

[1.5] 018; A999 A760; A999 A033; A999 A771; A999 A588 A566; A999
A635 A624 A566

[1.6] 018; A999 A715 A691

[1.7] 018; A999 A340-R

[2.1] 018; A999 A782; A999 A033; A999 A771; A999 A760; P1445-R
F81 Si 4A; P0964-R F34 D01; A999 A588 A566; H0044-R H0011;
A999 A635 A624 A566

[2.2] 018; R00326 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58
D82; R00964 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58
D83; A999 A782; A999 A340-R; S9999 S1376; H0000; P1150;
P1161; P1343

L41 ANSWER 2 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 2001-502349 [55] WPIX
DNC C2001-150999
TI Unvulcanized rubber production providing vulcanized rubber with
superior hysteresis, used for **tires**, comprises
non-productive mixing of unvulcanized rubber, carbon black and
xanthogen **polysulfide** at elevated temperature.
DC A95 E17
IN CHIBANTE, L P F; HANNON, M J; KORTE, J R; STIEBER, J F; WELSH, F E
PA (USRU) UNIROYAL CHEM CO INC
CYC 95
PI WO 2001036525 A1 20010525 (200155)* EN 50p C08K005-38
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
YU ZA ZW
AU 2001027515 A 20010530 (200156) C08K005-38
BR 2000015512 A 20020723 (200257) C08K005-38
EP 1252228 A1 20021030 (200279) EN C08K005-38
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK
NL PT RO SE SI TR
KR 2002063177 A 20020801 (200308) C08K005-38
CN 1391595 A 20030115 (200330) C08K005-38
JP 2003514939 W 20030422 (200336) 51p C08L021-00
ADT WO 2001036525 A1 WO 2000-US41920 20001106; AU 2001027515 A AU
2001-27515 20001106; BR 2000015512 A BR 2000-15512 20001106, WO
2000-US41920 20001106; EP 1252228 A1 EP 2000-990492 20001106, WO

2000-US41920 20001106; KR 2002063177 A KR 2002-705771 20020503; CN 1391595 A CN 2000-815989 20001106; JP 2003514939 W WO 2000-US41920 20001106, JP 2001-539011 20001106

FDT AU 2001027515 A Based on WO 2001036525; BR 2000015512 A Based on WO 2001036525; EP 1252228 A1 Based on WO 2001036525; JP 2003514939 W Based on WO 2001036525

PRAI US 1999-163585P 19991105

IC ICM C08K005-38; C08L021-00
ICS C08K003-04; C08K009-04

AB WO 200136525 A UPAB: 20011129

NOVELTY - A process for producing unvulcanized rubber, useful for producing vulcanized rubber with improved hysteresis, comprises mixing a composition comprising unvulcanized rubber, carbon black and xanthogen **polysulfide** at an elevated temperature in a non-productive stage.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a composition comprising carbon black and xanthogen **polysulfide**.

USE - For producing vulcanized rubber, e.g. for making automobile **tires**.

ADVANTAGE - The xanthogen **polysulfides** act as promoters for interaction of carbon black and rubber when they are added in the same, non-productive mixing stage as the carbon black. The vulcanized rubbers show a reduction in hysteresis (tan delta) at temperatures of 60-100 deg. C, a high tan delta is preserved at 0 deg. C and there is an improvement in tan delta to a higher value at -20 deg. C, which provides improved **traction** of **tires** under wet and icy conditions. Rubbers made using xanthogen **polysulfide** have favorable properties at both high and low temperatures.

Dwg.0/5

TECH WO 200136525 A1UPTX: 20010927

TECHNOLOGY FOCUS - POLYMERS - Preferred Process: Mixing is performed at 160 degreesC or higher for sufficient time to achieve substantial interaction of carbon black and unvulcanized rubber.

The mixing may be performed in at least 2 stages by milling and remilling.

At least part of the xanthogen **polysulfide** is **coated** on at least part of the carbon black.

The xanthogen **polysulfide** is present at 0.1-100 pts. wt. (preferably 0.5-20 pts. wt.) per 100 pts. wt. of carbon black. The composition may comprise **silica**.

TECHNOLOGY FOCUS - ORGANIC CHEMISTRY - Preferred Components: The xanthogen **polysulfide** has the formula ROC(S)SSC(S)OR1 (I).

R, R1 = alkyl (preferably n-butyl).

Preferred xanthogen **polysulfides** are di-n-butyl xanthogen disulfide, dicyclohexyl xanthogen disulfide, dibenzyl xanthogen

disulfide and xanthogen disulfide.

ABEX WO 200136525 A1UPTX: 20010927

EXAMPLE - N-234 grade carbon black (600 g) was stirred with deionized water (2,800 g) and an emulsion comprising water (300 g), sodium oleate (0.30 g) and dibutyl xanthogen disulfide (12.0 g) was added over 1 minute. The mixture was stirred for 1 hour, filtered and dried at 60 degreesC to constant weight (46 hours). The yield of coated carbon black was 590 g (95.5%). Rubber compositions were mixed in 3 stages. Firstly, Solflex 1216(TM) (solution polymerized 12% styrene/butadiene rubber) (75 pts. wt.), Budene 1207(TM) (polybutadiene rubber) (25 pts. wt.), N-234 (comparative) or the above coated N-234 carbon black (example) (72.0 pts. wt.) and Sundex 8125(TM) (aromatic processing oil) (32.5 pts. wt.) were mixed for 1.5 minutes to a discharge temperature (degreesC) of 150 and 170 respectively and then mixed at this temperature for 0 minutes for the comparative and 5 minutes for the example. Secondly, zinc oxide (2.5 pts. wt.), stearic acid (1.0 pt. wt.), Flexzone 7P(TM) (N-(1,3-dimethylbutyl)-N'-phenyl-p-phenylenediamine) (2.0 pts. wt.) and Bowax 615(TM) (microcrystalline wax) (1.5 pts. wt.) were added and mixed to an internal temperature of 138 degreesC or for a maximum of 5 minutes. Thirdly, Delac NS(TM) (N-tert.-butyl-2-benzotiazolylsulfenamide) (1.5 pts. wt.) and Sulfur 21-10(TM) (2.0 pts. wt.) were added and mixing was performed to an internal temperature of 104 degreesC.

The compositions were cured at 160 degreesC for 17 minutes and had a 100% modulus (MPa) of 2.0 and 2.2 respectively; a tensile strength (MPa) of 20.3 and 18.6 respectively; an elongation (%) of 670 and 470 respectively and a Shore A hardness of 68 and 66 respectively. Tan delta at 60 degreesC/10 Hz was 0.136 and 0.134 respectively at 0.7% strain, 0.273 and 0.224 respectively at 5% strain and 0.247 and 0.211 at 14% strain. G' at 60 degreesC/10 Hz (kPa) was 6,755 and 4,353 respectively at 0.7% strain; 2,777 and 2,290 respectively at 5% strain and 1,878 and 1,661 respectively at 14% strain. The percentage of G' retained was 27.8 and 38.2 respectively. Tan delta at 1% strain/10 Hz was 0.322 and 0.407 respectively at -20 degreesC; 0.216 and 0.257 respectively at 0 degreesC and 0.207 and 0.175 respectively at 60 degreesC.

KW [1] 2211-0-0-0 CL; 410498-0-0-0 CL; 410499-0-0-0 CL; 410501-0-0-0 CL; 410502-0-0-0 CL; 0041-56301 CL

FS CPI

FA AB; DCN

MC CPI: A08-C04; A08-R03; A09-A05; A11-C02A; E10-A04A; E31-N04D

DRN 1669-U

PLE UPA 20011129

[1.1] 018; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51
D53 D58 D76 D88; R00806 G0828 G0817 D01 D02 D12 D10 D51
D54 D56 D58 D84; M9999 M2073; L9999 L2391; L9999 L2073;
H0124-R; H0022 H0011; P0328; P1741; P0351; P0362

[1.2] 018; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58
 D84; M9999 M2073; L9999 L2391; L9999 L2073; H0000;
 H0011-R; H0124-R; P0328; P0339

[1.3] 018; ND00; K9723; N9999 N6439; N9999 N6326; B9999 B3792
 B3747; B9999 B3907 B3838 B3747; B9999 B5027 B5016 B4977
 B4740; B9999 B4171 B4091 B3838 B3747; B9999 B4035 B3930
 B3838 B3747; B9999 B4002 B3963 B3930 B3838 B3747; K9461;
 K9665

[1.4] 018; R05085 D00 D09 C- 4A; R01694 D00 F20 O- 6A Si 4A;
 A999 A237; A999 A771; S9999 S1514 S1456

[1.5] 018; D01 D50 D90 D63 F01 F05 D93 D32 D76 D11 D10 D14 D13
 D19 D18; A999 A157-R

CMC UPB 20011129

M3 *01* C106 C810 M411 M782 M904 M905 M910 Q132
 DCN: R01669-K; R01669-M; R05085-K; R05085-M

M3 *02* K0 K2 K223 K299 L4 L410 L471 L499 M210 M214 M231 M272
 M282 M320 M416 M620 M782 M904 M905 Q132
 DCN: RA4CVD-K; RA4CVD-M

M3 *03* G030 G039 G563 G599 K0 K2 K223 K299 L4 L410 L471 L499
 M280 M320 M415 M510 M520 M530 M542 M782 M904 M905 Q132
 DCN: RA4CVE-K; RA4CVE-M

M3 *04* C101 C106 C108 C116 C416 C530 C730 C800 C801 C802 C805 M411
 M782 M904 M905 Q132
 DCN: RA4CVF-K; RA4CVF-M

M3 *05* G010 G019 G100 K0 K2 K223 K299 L4 L410 L471 L499 M280
 M311 M322 M342 M373 M392 M414 M510 M520 M532 M540 M782 M904
 M905 Q020 Q132 R022 R038
 DCN: RA4CVG-K; RA4CVG-M

M3 *06* K0 K2 K223 K299 L4 L410 L471 L499 M210 M211 M212 M213
 M214 M215 M216 M220 M221 M222 M223 M224 M225 M226 M231 M232
 M233 M272 M282 M320 M416 M620 M782 M904 M905 Q132
 DCN: 0041-56301-K; 0041-56301-M

L41 ANSWER 3 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1995-261545 [34] WPIX
 CR 1987-261819 [37]
 DNN N1995-201201
 TI Non-slip **coating** prodn., useful for back of carpet,
shoes, etc. - comprises solid organic polymer mixed in
 grinding device with organic solid abrasive.
 DC A18 A31 A82 G02 P27 Q63
 PA (KOKU-N) KOKUSAI GIJUTSU BOEKI KK
 CYC 1
 PI JP 07166155 A 19950627 (199534)* 4p C09K003-14
 ADT JP 07166155 A Div ex JP 1986-24964 19860208, JP 1994-220814 19860208
 PRAI JP 1986-24964 19860208; JP 1994-220814 19860208
 IC ICM C09K003-14
 ICS C08J003-20; F16D069-02

ICA A47G027-04; C08J005-14

ICI C08L009:00, C08L011:00

AB JP 07166155 A UPAB: 19950904

Solid organic polymer such as rubber and plastic, is mixed in a grinding device such as hammer mill and grinder in close contact with organic solid abrasive such as **corundum** and carborundum so that the inorganic abrasive may be wrapped in the polymer and mixt. ground to form a non-continuous phase (12). An organic polymer such as synthetic rubber, butadiene-styrene copolymer, butadiene-styrene-**acrylonitrile** copolymer and polychloroisoprene is dispersed in an organic solvent such as aromatic solvent and hydrocarbon to form a continuous phase (11) and it is dispersed in the non-continuous phase (11) to produce a non-slip **coating** in the state of viscous liq. gel or thixotropic mixt. Other substances to form non-continuous phase are solid acid such as citric acid, metal abrasive and dispersible solid.

ADVANTAGE - The non-slip **coating** is applied to show sole and heel of **shoes**, back surface of carpet and mat and top surface of staircase step and effectively **prevents slipping** even on a dry hard floor.

Dwg.1/2

FS CPI GMPI

FA AB; GI

MC CPI: A12-C04; A12-D02; A12-H10; A12-R03; G02-A05; G04-B04

PLE UPA 19951011

[1.1]	017; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51 D53 D58 D88; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58 D84; H0124-R; H0022 H0011; S9999 S1036 S1014; P0328 ; P1741 ; P0351 ; P0362
[1.2]	017; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51 D53 D58 D88; R00817 G0475 G0260 G0022 D01 D12 D10 D51 D53 D58 D83 F12; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58 D84; H0124-R; H0033 H0011; S9999 S1036 S1014; P0328 ; P1741 ; P0088 ; P0191
[1.3]	017; R01079 G0828 G0817 D01 D12 D10 D51 D54 D56 D58 D69 D84 Cl 7A; H0000; H0124-R; S9999 S1036 S1014; P0328 ; P0340
[1.4]	017; ND07; N9999 N6439; N9999 N6155; Q9999 Q7114-R; Q9999 Q7067 Q7056; Q9999 Q7603-R; K9483-R; K9712 K9676; K9676-R; Q9999 Q6906; Q9999 Q6848 Q6826; ND01

L41 ANSWER 4 OF 4 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1990-144369 [19] WPIX

DNC C1990-063336

TI Rubbery elastic compsn. having high **anti-slipping** ability - obtd. by **coating** surfaces of fine ultra-hard e.g. **silicon carbide** with less hard agent e.g.

phenolic resin and blending to rubber.

DC A18 A21 A23 A83 Q11

PA (YACH-N) YACHIYO MICRO SCIEN

CYC 8

PI JP 02091137 A 19900330 (199019)*

EP 442155 A 19910821 (199134) #

R: CH DE FR GB IT LI SE

ADT JP 02091137 A JP 1988-242362 19880929; EP 442155 A EP 1990-200343
19900214

PRAI JP 1988-242362 19880929

REP CH 166228; DE 2326455; FR 818678; US 2672910; US 3850875

IC B60C011-14; C08K009-04; C08L021-00

AB JP 02091137 A UPAB: 19930928

The rubbery elastic compsn. is obtd. by **coating** the fine surfaces of ultra-hard material with **coating** agent which is less hard than the fine surface and the surface to be contacted. The resultant is homogeneously blended and kneaded with rubbery elastic material.

The ultra-hard material is pref. **SiC**, aluminium oxide, garnet and other alloys. The **coating** agent pref. includes phenol resin, **epoxy** resin, crosslinked **polyethylene**, polyamide, etc. The rubbery material includes natural rubber and various synthetic rubbers.

USE - The compsn. is useful in the prepn. of tyres, sole of **shoes**, flooring material, etc.

0/2

FS CPI GMPI

FA AB

MC CPI: A12-H10

DRN 1247-U; 1544-U; 1247-U; 1544-U

PLC UPA 19930924

KS: 0009 0034 0035 3003 0205 0224 0069 0226 0239 1277 1282 1283 1987
2020 2211 2218 2219 2440 2622 2628 2658 2694 2713 2729 2826

FG: *001* 014 02& 032 041 046 047 06- 13- 140 141 15- 20- 226 229
231 257 273 308 310 311 335 41& 431 44& 445 473 477 551
560 561 566 597 599 613 614 619 620 672 688 721

=> => d his

(FILE 'HOME' ENTERED AT 15:39:31 ON 17 FEB 2004)

FILE 'WPIX, JAPIO' ENTERED AT 15:39:57 ON 17 FEB 2004

L1 259622 S (SILICON(2A) (OXIDE? OR DIOXIDE?)) OR SILICA OR SiO₂

L2 174403 S (ALUMINUM(2A) OXIDE?) OR ALUMINA? OR Al₂O₃ OR CORUNDUM

L3 9223 S (CERIUM(2A) (OXIDE? OR DIOXIDE?)) OR CERIA OR (CERIC(2A)
 L4 64665 S (SILICON(2A)CARBIDE?) OR SIC
 L5 209 S WALNUT (2A) (SHELL? OR NUTSHELL?)
 L6 418039 S L1 OR L2 OR L3 OR L4 OR L5
 L7 894714 S ?POLYETHYLENE? OR ?POLYBUTADIENE? OR ?SILICONE? OR ?POL
 L8 57790 S L6 AND L7
 L9 41332 S NONSLIP? OR NON(W)SLIP? OR ANTISLIP? OR ANTI(W)SLIP? OR
 L10 220 S L8 AND L9
 L11 16 S L10 AND (TIRE? OR SHOE?)

=> d 111 1-8 max

L11 ANSWER 1 OF 16 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 2003-560568 [53] WPIX
 DNC C2003-151251
 TI Coating agents for special effect surface coatings containing
polyurethane and polyether/**polyurethane** copolymer
 useful for deposition of skin sympathetic, pleasing and velvety-like
 coatings.
 DC A25 A82 G02 P42 P77
 IN HAEFNER, S; HUMMEL, H
 PA (STAEN-N) STAEDTLER GMBH & CO KG J S
 CYC 31
 PI EP 1300451 A2 20030409 (200353)* DE 8p C09D175-04
 R: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU
 LV MC MK NL PT RO SE SI SK TR
 DE 10149151 A1 20030430 (200353) C09D005-02
 JP 2003192983 A 20030709 (200354) 7p C09D175-04
 ADT EP 1300451 A2 EP 2002-21412 20020925; DE 10149151 A1 DE
 2001-10149151 20011004; JP 2003192983 A JP 2002-291288 20021003
 PRAI DE 2001-10149151 20011004
 IC ICM C09D005-02; C09D175-04
 ICS B05D007-24; B43K023-008; C08J005-16; C09D175-08; C09D183-04;
 C09D191-06
 AB EP 1300451 A UPAB: 20030820
 NOVELTY - Aqueous **polyurethane** dispersions and/or
 polyether/**polyurethane** copolymer dispersions for coating
 agents with improved surface adhesion and covering power. Improved
 but special effects can be obtained, e.g. skin sympathetic coatings
 with a slide resistant surface and good grip and a very pleasant
 soft-grip effect.
 DETAILED DESCRIPTION - Aqueous **polyurethane**
 dispersions and/or polyether/**polyurethane** copolymer
 dispersions for coating agents with improved surface adhesion and
 covering power. The dispersions may also contain:
 (a) wetting agent;
 (b) defoamer if required;
 (c) filler;

- (d) colorant;
- (e) lubricant;
- (f) thickening agent; and
- (g) other additives.

An INDEPENDENT CLAM is included for a coating containing (wt.%) :

- (1) **polyurethane** (0.10-25);
- (2) polyether/**polyurethane** copolymer () (5-20);
- (3) N-methylpyrrolidone (0.01-5);
- (4) wetting agent;
- (5) defoamer;
- (6) filler (0.05-40); and optionally
- (7) colorant;
- (8) lubricant;
- (9) thickening agent; and/or
- (10) other additives.

USE - The CA is useful as an effect coating, for deposition of skin sympathetic, pleasing and velvety-like coatings on solid products coming into direct contact with the skin, or which are **antislip** or aufzubewahren (**sic**) (claimed). The CA is useful as a surface coating agent for rod- or bar-shaped products such as wood, metal or synthetic plastic materials, especially for writing, marking, or malgerate (**sic**) (claimed) and for cosmetic articles (claimed).

ADVANTAGE - The CA forms a skin sympathetic, pleasing soft and velvety-like surface coating of good quality, showing good adhesion, good covering power and avoids the drawbacks of previous coatings, i.e. hard and smooth surfaces which after long contact with the hand lead to **tiredness** and tensing up.

Dwg.0/0

TECH EP 1300451 A2 UPTX: 20030820

TECHNOLOGY FOCUS - POLYMERS - Preferred Components: a coating agent (CA) containing (wt.%):

- (1) aqueous **polyurethane** dispersion (0.5-50) and/or polyether/**polyurethane** copolymer dispersion (30-50) containing (a) to (g) (0.05-40);
- (2) a CA containing aqueous **polyurethane** dispersion (1-12) and polyether/**polyurethane** copolymer dispersion (35-50) containing **silicone** or polyether/siloxane (0.05-0.25), filler (4-45), colorant (0.3-25) and other additives (0.5-3);
- (3) a colorless or clear CA containing a **polyurethane** dispersion (40-50) and a polyether/**polyurethane** copolymer(40-50) containing **silicone** or polyether/siloxane (0.1-0.2), wax, especially **Polyethylene** and/or polypropylene wax (5-15), and thickening agent or other additives;
- (4) a **polyurethane** dispersion containing (wt.%) **polyurethane** (30-45) and a polyether/**polyurethane** dispersion containing polyether/**polyurethane** copolymer

(30-40) and N-methylpyrrolidone (0.05-5) and/or other additives in water (55-70) as dispersing agent;

- (5) a CA containing **silicone**, especially polyether/siloxane and/or polysiloxane as wetting agent or adhesion aid and/or a defoamer;
- (6) a CA containing talcum, barium sulfate and/or titanium dioxide as filler and/or colorant;
- (7) a CA containing teflon wax, **polyethylene** wax and/or **polypropylene** wax.

ABEX EP 1300451 A2 UPTX: 20030820

EXAMPLE - No specific examples given.

FS CPI GMPI

FA AB

MC CPI: A05-G01E; A05-G03; A12-B01K; A12-D05B; A12-V04; G02-A04;
G02-A05

PLE UPA 20030820

- [1.1] 018; P1592-R F77 D01; S9999 S1025 S1014
- [1.2] 018; P1058-R P1592 P0964 H0260 F34 F77 H0044 H0011 D01
- [1.3] 018; ND01; Q9999 Q7114-R; K9449; K9927; B9999 B5367 B5276;
K9552 K9483; K9574 K9483; K9609 K9483; K9712 K9676; Q9999
Q8231 Q8173
- [1.4] 018; G3190 R01541 D00 F80 O- 6A Mg 2A Si 4A; R01739 D00
F60 O- 6A S- Ba 2A; R01966 D00 F20 Ti 4B Tr O- 6A; A999
A237; A999 A760; A999 A771; A999 A102 A077
- [1.5] 018; A999 A760; A999 A033; A999 A771; A999 A588 A566; A999
A635 A624 A566
- [1.6] 018; A999 A715 A691
- [1.7] 018; A999 A340-R
- [2.1] 018; A999 A782; A999 A033; A999 A771; A999 A760; P1445-R
F81 Si 4A; P0964-R F34 D01; A999 A588 A566; H0044-R H0011;
A999 A635 A624 A566
- [2.2] 018; R00326 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58
D82; R00964 G0044 G0033 G0022 D01 D02 D12 D10 D51 D53 D58
D83; A999 A782; A999 A340-R; S9999 S1376; H0000; P1150;
P1161; P1343

L11 ANSWER 2 OF 16 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 2000-251604 [22] WPIX

DNN N2000-188725 DNC C2000-076793

TI Rubber composition for studless **tire** with improved
abrasion resistance - comprises rubber component with SAF grade
carbon black and/or ISAF grade carbon black, and compounded with
silicon oxide.

DC A12 A95 Q11

PA (TOYF) TOYO RUBBER IND CO LTD

CYC 1

PI JP 2000063569 A 20000229 (200022)* 5p C08L009-00

ADT JP 2000063569 A JP 1998-256007 19980825

PRAI JP 1998-256007 19980825

IC ICM C08L009-00

ICS B60C001-00; B60C011-00; B60C011-14; C08K003-04; C08K003-36

AB JP2000063569 A UPAB: 20000630

NOVELTY - Rubber composition containing **anti-slipping** materials comprises 100 pts. wt. of rubber component with 20-40 pts. wt. of SAF grade carbon black and/or ISAF grade carbon black and 10-30 pts. wt. of **SiO₂** compounded, the total of the carbon black and the **SiO₂** being 35-60 pts. wt. The vulcanized product of the rubber composition has JIS hardness of 48-55 as measured at -5 deg. C and dynamic modulus of elasticity of 8-15 MPa.

DETAILED DESCRIPTION - The rubber component consists of 10-40 wt. % of **cis-1,4-polybutadiene** rubber modified with **syndiotactic-1,2-polybutadiene** and 90-60 wt. % of diene-type rubber other than the modified **polybutadiene** rubber.

USE - The rubber composition is used for studless **tires**.

ADVANTAGE - Studless **tires** using the rubber composition have improved abrasion resistance.

Dwg.0/0

FS CPI GMPI

FA AB

MC CPI: A04-B01E; A04-B02; A07-A02A1; A08-R03; A08-R06A; A12-T01

PLE UPA 20000706

[1.1] 018; G0817-R D01 D51 D54; R00806 G0828 G0817 D01 D02 D12
D10 D51 D54 D56 D58 D84; H0124-R; H0000; M9999 M2073;
P0328; P0339

[1.2] 018; R24073 D01 D02 D03 D12 D10 D51 D53 D59 D85 P0599
H0124 B5061; M9999 M2073

[1.3] 018; ND04; ND01; Q9999 Q9256-R Q9212; B9999 B5287 B5276;
K9449; B9999 B5050 B5038 B4977 B4740; B9999 B5061 B5038
B4977 B4740; B9999 B4966 B4944 B4922 B4740; B9999 B4080
B3930 B3838 B3747; B9999 B3792 B3747; K9745-R

[1.4] 018; D00; R05085 D00 D09 C- 4A; R01694 D00 F20 O- 6A Si
4A; A999 A237; A999 A771

L11 ANSWER 3 OF 16 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1998-141108 [13] WPIX

DNN N1998-112371 DNC C1998-046025

TI Outer sole of **shoes** - prepared by vulcanisation of a composition comprising rubber composition comprising styrene-butadiene rubber and butadiene rubber; and water-containing **silica**.

DC A12 A83 P22

PA (SUMR) SUMITOMO RUBBER IND LTD

CYC 1

PI JP 10017717 A 19980120 (199813)* 7p C08L009-06
 JP 2957480 B2 19991004 (199946) 8p C08L009-06
 ADT JP 10017717 A JP 1996-195522 19960705; JP 2957480 B2 JP 1996-195522
 19960705
 FDT JP 2957480 B2 Previous Publ. JP 10017717
 PRAI JP 1996-195522 19960705
 IC ICM C08L009-06
 ICS A43B013-04; A43B013-22; C08K003-36; C08K013-02
 ICI C08K003:36, C08K005:54, C08K013-02; C08L009-06, C08L009:00
 AB JP 10017717 A UPAB: 19980330
 Outer sole(I) of **shoes** prepared by vulcanisation of a
 composition (II) comprising (A) and (B) is claimed. (A is a rubber
 composition comprising styrene/butadiene rubber(A1) 60-85 wt% and
 butadiene rubber(A2) 40-15 wt%, 100 pts wt (B) water-containing
silica, 55-70 pts wt.

Outer sole(III) prepared from a composition (IV) comprising (A)
 100 pts wt, (B) 55-70 pts wt and (C) silane coupling agent to give
 (C)/(B) = 1/12-1/5 is also claimed.

ADVANTAGE - (I) has good abrasion resistance and **non-slip** characteristics.

Dwg.0/3

FS CPI GMPI
 FA AB
 MC CPI: A04-B02; A04-B03; A07-A02A1; A08-M01D; A08-R06A; A11-C02A;
 A12-C04
 PLE UPA 19980421
 [1.1] 018; H0022 H0011; R00708 G0102 G0022 D01 D02 D12 D10 D19
 D18 D31 D51 D53 D58 D76 D88; R00806 G0828 G0817 D01 D02
 D12 D10 D51 D54 D56 D58 D84; L9999 L2528 L2506; L9999
 L2664 L2506; S9999 S1605-R; H0124-R; L9999 L2391; L9999
 L2073; M9999 M2073; S9999 S1434; P0328 ; P1741 ; P0351 ;
 P0362
 [1.2] 018; ND01; ND04; K9745-R; B9999 B5287 B5276; B9999 B5367
 B5276; N9999 N6440-R; K9449
 [1.3] 018; R01725 D00 D09 S- 6A; A999 A157-R
 [1.4] 018; A999 A497 A486
 [1.5] 018; R01520 D00 F20 Zn 2B Tr O- 6A; A999 A146; A999 A771
 [1.6] 018; R00122 D01 D11 D10 D50 D93 F36 F35; A999 A340-R
 [1.7] 018; R01694 D00 F20 O- 6A Si 4A; A999 A237
 [1.8] 018; D01 D11 D10 D50 F87 F86 S- 6A; A999 A033
 [1.9] 018; R10366 G2459 D01 D11 D10 D50 D88 F09 F07 F86 F87;
 A999 A033
 [1.10] 018; A999 A384
 [1.11] 018; A999 A226; S9999 S1376
 [2.1] 018; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54 D56 D58
 D84; H0000; H0124-R; L9999 L2391; L9999 L2073; M9999
 M2073; S9999 S1434; P0328 ; P0339
 [2.2] 018; ND01; ND04; K9745-R; B9999 B5287 B5276; B9999 B5367

B5276; N9999 N6440-R; K9449; B9999 B3963-R B3930 B3838
 B3747
 [2.3] 018; A999 A226; S9999 S1376
 [2.4] 018; A999 A384
 [2.5] 018; R10366 G2459 D01 D11 D10 D50 D88 F09 F07 F86 F87;
 A999 A033
 [2.6] 018; D01 D11 D10 D50 F87 F86 S- 6A; A999 A033
 [2.7] 018; R01694 D00 F20 O- 6A Si 4A; A999 A237
 [2.8] 018; R00122 D01 D11 D10 D50 D93 F36 F35; A999 A340-R
 [2.9] 018; R01520 D00 F20 Zn 2B Tr O- 6A; A999 A146; A999 A771
 [2.10] 018; A999 A497 A486
 [2.11] 018; R01725 D00 D09 S- 6A; A999 A157-R

L11 ANSWER 4 OF 16 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN

AN 1995-261545 [34] WPIX

CR 1987-261819 [37]

DNN N1995-201201

TI **Non-slip** coating prodn., useful for back of carpet, **shoes**, etc. - comprises solid organic polymer mixed in grinding device with organic solid abrasive.

DC A18 A31 A82 G02 P27 Q63

PA (KOKU-N) KOKUSAI GIJUTSU BOEKI KK

CYC 1

PI JP 07166155 A 19950627 (199534)* 4p C09K003-14

ADT JP 07166155 A Div ex JP 1986-24964 19860208, JP 1994-220814 19860208

PRAI JP 1986-24964 19860208; JP 1994-220814 19860208

IC ICM C09K003-14

ICS C08J003-20; F16D069-02

ICA A47G027-04; C08J005-14

ICI C08L009:00, C08L011:00

AB JP 07166155 A UPAB: 19950904

Solid organic polymer such as rubber and plastic, is mixed in a grinding device such as hammer mill and grinder in close contact with organic solid abrasive such as **corundum** and carborundum so that the inorganic abrasive may be wrapped in the polymer and mixt. ground to form a non-continuous phase (12). An organic polymer such as synthetic rubber, butadiene-styrene copolymer, butadiene-styrene-**acrylonitrile** copolymer and polychloroisoprene is dispersed in an organic solvent such as aromatic solvent and hydrocarbon to form a continuous phase (11) and it is dispersed in the non-continuous phase (11) to produce a **non-slip** coating in the state of viscous liq. gel or thixotropic mixt. Other substances to form non-continuous phase are solid acid such as citric acid, metal abrasive and dispersible solid.

ADVANTAGE - The **non-slip** coating is applied to show sole and heel of **shoes**, back surface of carpet and mat and top surface of staircase step and effectively

prevents slipping even on a dry hard floor.

Dwg.1/2

FS CPI GMPI

FA AB; GI

MC CPI: A12-C04; A12-D02; A12-H10; A12-R03; G02-A05; G04-B04

PLE UPA 19951011

[1.1] 017; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51
D53 D58 D88; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54
D56 D58 D84; H0124-R; H0022 H0011; S9999 S1036 S1014;
P0328 ; P1741 ; P0351 ; P0362

[1.2] 017; R00708 G0102 G0022 D01 D02 D12 D10 D19 D18 D31 D51
D53 D58 D88; R00817 G0475 G0260 G0022 D01 D12 D10 D51 D53
D58 D83 F12; R00806 G0828 G0817 D01 D02 D12 D10 D51 D54
D56 D58 D84; H0124-R; H0033 H0011; S9999 S1036 S1014;
P0328 ; P1741 ; P0088 ; P0191

[1.3] 017; R01079 G0828 G0817 D01 D12 D10 D51 D54 D56 D58 D69
D84 C1 7A; H0000; H0124-R; S9999 S1036 S1014; P0328 ;
P0340

[1.4] 017; ND07; N9999 N6439; N9999 N6155; Q9999 Q7114-R; Q9999
Q7067 Q7056; Q9999 Q7603-R; K9483-R; K9712 K9676; K9676-R;
Q9999 Q6906; Q9999 Q6848 Q6826; ND01

L11 ANSWER 5 OF 16 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
AN 1992-027142 [04] WPIX

DNN N1992-020464 DNC C1992-011601

TI Peelable thermoplastic film used for wrapping - consists of
polyolefin block copolymer based on EVA and erucamide derivs..

DC A18 A92 E16

IN GAGE, P D

PA (REXE-N) REXENE PROD CO; (REXE-N) REXENE CORP

CYC 3

PI JP 03244640 A 19911031 (199204)*

US 5334643 A 19940802 (199430) 6p C08K005-20

US 5459186 A 19951017 (199547) 4p C08K005-20

KR 178026 B1 19990515 (200052) C08L053-02

ADT JP 03244640 A JP 1990-326184 19901129; US 5334643 A Cont of US
1989-443173 19891130, US 1991-725893 19910701; US 5459186 A Cont of
US 1989-443173 19891130, Cont of US 1991-725893 19910701, US
1993-168581 19931217; KR 178026 B1 KR 1990-19446 19901129

FDT US 5459186 A Cont of US 5334643

PRAI US 1989-443173 19891130; US 1991-725893 19910701; US 1993-168581
19931217

IC C08J005-18; C08K003-36; C08K005-16; C08L023-08; C08L025-08;
C08L053-02

ICM C08K005-20; C08L053-02

ICS C08J005-18; C08K003-36; C08K005-16; C08L023-08; C08L025-08

AB JP 03244640 A UPAB: 19931006

Peelable thermoplastic film comprises 35 to 65 wt. % (a) A-B-A block

copolymer, 15 to 55 wt. % (b) ethylene vinyl acetate copolymer, and about 10 wt. % (c) erucamide **anti-slipping** and anti-blocking concentrate and has thickness of 0.0005 to 0.02 inches. Block A is derived from polystyrene or its homologues. Block B derives from lower alkenes. The block copolymer contains about 30 wt. % mineral oil. The film pref. further comprises 1 to 10 wt. % another **antislipping** and antiblocking concentrate.

Pref. the peelable thermoplastic film comprises 40 to 60 wt. % partic. 45 to 55 wt. % (a), 20 to 50 wt. % partic. 25 to 45 wt. % (b) and about 10 wt. % (c). Pref. (b) contains about 28 wt. % vinyl acetate. Block B is an ethylene/butene copolymer. The haze value of the film is 65 to 90%. (c) consists of about 7 wt. % erucamide, about 20 wt. % **silica**, and about 73 wt. % ethylene/vinyl acetate copolymer.

USE/ADVANTAGE - The film is used for wrapping materials. It is easily heat sealable with and peelable from various substrate including PVA. (Provisional Basic previously advised in week 9150).
0/0

ABEQ US 5334643 A UPAB: 19940914

A peelable thermoplastic film comprises a blend for a film having a peel strength of at least 300g/1/2 inch and a thickness of 0.0005-0.02 inch. The blend includes (a) 40-60 wt.% of an A-B-A block copolymer, the A blocks being derived from polystyrene or polystyrene homolog, the B blocks comprise an ethylene butene random copolymer, the block copolymer including 30 wt.% mineral oil; (b) 20-50 wt.% of an ethylene vinyl acetate copolymer; and (c) 10 wt.% of an erucamide anti-block concentrate.

ADVANTAGE - The films are adapted to form a peelable seal with various substrates including PVC.

Dwg.0/0

ABEQ US 5459186 A UPAB: 19951128

The peelable thermoplastic film is formed from a blend comprising (a) 35-65 wt.% of an A-B-A block copolymer, the A blocks being derived from polystyrene or a polystyrene homologue, the B blocks comprising an ethylene butene random copolymer, the block copolymer including approximately 30 wt.% mineral oil; (b) 20-55 wt.% of an ethylene vinyl acetate copolymer; and (c) 10% or more of an erucamide anti-block concentrate; the film having a peel strength of 300 gm/1/2inch and a thickness of 0.005-0.02 inch. Pref. film further comprises 1-10 wt.% of a second anti-block concentrate comprising a blend of **polyethylene** and **silica**.

USE/ADVANTAGE - **Shoe** soles, stretch films, etc. Low and relatively constant peel force.

Dwg.0/0

FS

CPI

FA

AB; DCN

MC

CPI: A04-C01; A04-G01E; A04-G07; A07-A02C; A08-M07; A08-P08;

A12-P01A; A12-S06D; E10-D03C

DRN 1694-U; 5190-U
 PLC UPA 20001018
 KS: 0002 0034 0205 0218 0231 0234 0241 0242 0258 0306 0307 0789 1095
 2007 2011 2236 2275 2315 2513 2628 2654 2656 2719 2726 2774 3155
 3253 3254 3269
 FG: *001* 014 034 036 04- 040 041 046 047 051 055 056 066 067 117
 122 229 231 244 245 248 27& 273 28& 314 315 318 323 381
 435 443 45- 477 55& 551 56& 560 566 575 59& 596 597 600
 003 020 021 023 023 024 024 025 030 030 078 109 200 201
 223 227 231 251 262 265 265 271 272 277 315 325 325 326
 CMC UPB 19930924
 M3 *01* H7 H721 J0 J011 J3 J371 M226 M231 M262 M281 M320 M416
 M781 M903 M904 N101 Q130 R043
 DCN: R05190-U
 L11 ANSWER 6 OF 16 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1990-144369 [19] WPIX
 DNC C1990-063336
 TI Rubbery elastic compsn. having high **anti-slipping**
 ability - obtd. by coating surfaces of fine ultra-hard e.g.
 silicon carbide with less hard agent e.g. phenolic
 resin and blending to rubber.
 DC A18 A21 A23 A83 Q11
 PA (YACH-N) YACHIYO MICRO SCIEN
 CYC 8
 PI JP 02091137 A 19900330 (199019)*
 EP 442155 A 19910821 (199134) #
 R: CH DE FR GB IT LI SE
 ADT JP 02091137 A JP 1988-242362 19880929; EP 442155 A EP 1990-200343
 19900214
 PRAI JP 1988-242362 19880929
 REP CH 166228; DE 2326455; FR 818678; US 2672910; US 3850875
 IC B60C011-14; C08K009-04; C08L021-00
 AB JP 02091137 A UPAB: 19930928
 The rubbery elastic compsn. is obtd. by coating the fine surfaces of
 ultra-hard material with coating agent which is less hard than the
 fine surface and the surface to be contacted. The resultant is
 homogeneously blended and kneaded with rubbery elastic material.
 The ultra-hard material is pref. **SiC**, aluminium
 oxide, garnet and other alloys. The coating agent pref. includes
 phenol resin, **epoxy** resin, crosslinked
 polyethylene, polyamide, etc. The rubbery material includes
 natural rubber and various synthetic rubbers.
 USE - The compsn. is useful in the prepn. of tyres, sole of
 shoes, flooring material, etc.
 0/2
 FS CPI GMPI

FA AB
 MC CPI: A12-H10
 DRN 1247-U; 1544-U; 1247-U; 1544-U
 PLC UPA 19930924
 KS: 0009 0034 0035 3003 0205 0224 0069 0226 0239 1277 1282 1283 1987
 2020 2211 2218 2219 2440 2622 2628 2658 2694 2713 2729 2826
 FG: *001* 014 02& 032 041 046 047 06- 13- 140 141 15- 20- 226 229
 231 257 273 308 310 311 335 41& 431 44& 445 473 477 551
 560 561 566 597 599 613 614 619 620 672 688 721

 L11 ANSWER 7 OF 16 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1984-218307 [35] WPIX
 DNC C1984-091981
 TI Abrasive paste with **non-slip** properties -
 contains butadiene styrene block copolymer, mineral filler and
 organic solvent.
 DC A12 A83
 IN ALBAM, M A; GLIVANSKAY, A R; IONOV, A P
 PA (DOME-R) DOMESTIC SERVICES
 CYC 1
 PI SU 1065442 A 19840107 (198435)* 4p
 ADT SU 1065442 A SU 1982-3494979 19820930
 PRAI SU 1982-3494979 19820930
 IC C08J005-14; C08L053-02
 AB SU 1065442 A UPAB: 19930925
 The paste contains:- **SiO₂**, furnace black and **SiC**
 (of particle size 0.005-0.04, 0.1-0.15 and 400-800 microns
 respectively) as mineral filler; ethylacetate and benzene (in ratio
 1:3) as organic solvent; coumarone-indene resin and polyisocyanate
 as supplementary additives. The proposed compsn. contains (in pts.
 wt.): 70/30 butadiene/styrene block copolymer 100; **SiO₂**
 1-5; furnace black 1-30; **SiC** 100-600; coumarone-indene
 resin 5-50; polyisocyanate 5-50; ethylacetate/benzene mixt.
 360-800.S USE/ADVANTAGE - The prod. gives increased stability
 (during walking on slippery surfaces) and wear resistance and is
 esp. suitable for **shoe**-soles.
 0/0
 FS CPI
 FA AB
 MC CPI: A04-B03; A04-C; A08-C09; A08-R01; A12-C04; A12-H10
 DRN 1135-U; 1247-U; 1694-U; 5085-U
 PLC UPA 19930924
 KS: 0002 0009 0010 3003 0205 0218 0224 3000 0231 0306 3159 0362 1095
 2020 2217 2218 3217 2318 2507 2657 2658 2713 3274
 FG: *001* 014 032 034 036 04- 040 055 056 060 11& 117 122 13- 229
 231 27& 307 308 310 316 332 341 398 44& 473 51& 54& 582

597 598 599 619 620 623 626 721

L11 ANSWER 8 OF 16 WPIX COPYRIGHT 2004 THOMSON DERWENT on STN
 AN 1979-56114B [30] WPIX
 TI Outer **shoe** with gripping surface - applied to sole in
 separated discrete bands within channels in sole.
 AW RUBBER POLYVINYL CHLORIDE PVC.
 DC A83 P22
 PA (BELL-I) BELL M
 CYC 2
 PI US 4160331 A 19790710 (197930)*
 CA 1083810 A 19800819 (198036)
 PRAI US 1978-879163 19780221
 IC A43B003-16; A43B013-22; A43B023-28
 AB US 4160331 A UPAB: 19930901
 A **shoe** sole include spaced grooves at least some, but not
 all, of which are filled with an abrasive mixture fo grit and an
 adhesive. The sole is of natural or synthetic rubber or PVC. Pref.
 the mixts. project slightly beyond the surface of the sole.

A pref. mixt. comprises 25% grit, e.g. **silicon carbide** particles, and 75% adhesive, for example an **epoxy** resin.

A long-wearing, **non-slip** sole with excellent grip is provided.

FS CPI GMPI
 FA AB
 MC CPI: A12-C04
 PLC UPA 19930924
 KS: 0009 0209 0231 0759 1282 1987 2571 2628 2658 2682 2713 2726
 FG: *001* 011 032 04- 061 062 063 226 257 443 477 532 533 535 551
 560 566 597 599 609 619 620 688

=> d 111 9-16 ibib abs

L11 ANSWER 9 OF 16 JAPIO (C) 2004 JPO on STN
 ACCESSION NUMBER: 2000-063569 JAPIO
 TITLE: RUBBER COMPOSITION FOR STUDLESS TIRE
 INVENTOR: TODA HIROYA
 PATENT ASSIGNEE(S): TOYO TIRE & RUBBER CO LTD
 PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 2000063569	A	20000229	Heisei	C08L009-00

APPLICATION INFORMATION

STN FORMAT: JP 1998-256007 19980825
 ORIGINAL: JP10256007 Heisei
 PRIORITY APPLN. INFO.: JP 1998-256007 19980825
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 2000

AN 2000-063569 JAPIO

AB PROBLEM TO BE SOLVED: To obtain a rubber composition for capable of improving performance of studless **tire** on ice without damaging a wear performance, etc., by mixing a carbon black and a **silica** with a specific rubber component in a specific ratio to adjust a JIS hardness and a dynamic modulus of elasticity within a specific range.

SOLUTION: This rubber composition comprises (A) 100 pts.wt. rubber component consisting of 10-40 wt.% syndiotactic 1,2-**polybutadiene**-modified cis 1,4- **polybutadiene** rubber and 90-60 wt.% diene-based rubber except the modified **polybutadiene**, (B) 20-40 pts.wt. carbon black selected from the group consisting of SAF and ISAF grade carbon black and (C) 10-30 pts.wt. **silica**. Furthermore, the total amount of the blended components B and C is 35-60 pts.wt., the JIS hardness of the vulcanized matter measured at -5°C is 48-55 and the dynamic modules of elasticity (E') is 8-15 MPa. A vegetable granule, a nonmetal inorganic granule, a staple fiber, etc., can be added as an **anti-slip** agent in addition to the components.

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L11 ANSWER 10 OF 16 JAPIO (C) 2004 JPO on STN

ACCESSION NUMBER: 1999-172044 JAPIO
 TITLE: RUBBER COMPOSITION FOR STUDLESS **TIRE**
 INVENTOR: MIYAZAKI YUJI; HAYASHI HIROFUMI; TANAKA KAZUNORI
 PATENT ASSIGNEE(S): TOYO TIRE & RUBBER CO LTD
 PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 11172044	A	19990629	Heisei	C08L009-00

APPLICATION INFORMATION

STN FORMAT: JP 1997-362975 19971212
 ORIGINAL: JP09362975 Heisei
 PRIORITY APPLN. INFO.: JP 1997-362975 19971212
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1999

AN 1999-172044 JAPIO

AB PROBLEM TO BE SOLVED: To provide a rubber composition which can realize an improvement in the performance of a studless **tire** on the ice.

SOLUTION: A rubber composition used for a studless **tire**

and containing an **anti-slip** agent comprising a vegetable particulate material having a particle diameter in the range from 100 to 600 μm and treated to improve the adherence to a rubber, wherein 30-50 pts.wt. carbon black selected from the group consisting of SAF-grade carbon blacks and ISAF-grade carbon blacks and 3-15 pts.wt. **silica** are blended while satisfying such a quantitative relation that the total of the compounding amount of carbon black and **silica** may be 35-55 pts.wt. based on 100 pts.wt. rubber component consisting of 65-95 wt.% diene rubber usually used in **tire** rubber compositions and 35-5 wt.% **polybutadiene** rubber having cis-1,4 linkages, modified with a **polybutadiene** having syndiotactic-1,2 linkages and whose vulcanizate has a dynamic elastic modulus (E') measured at 30°C of 8.0-15.0 MPa.

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L11 ANSWER 11 OF 16 JAPIO (C) 2004 JPO on STN

ACCESSION NUMBER: 1996-154704 JAPIO

TITLE: SHOE SOLE

INVENTOR: KODAMA HIRONORI

PATENT ASSIGNEE(S): MOON STAR CO

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 08154704	A	19960618	Heisei	A43B013-04

APPLICATION INFORMATION

STN FORMAT: JP 1994-329501 19941202

ORIGINAL: JP06329501 Heisei

PRIORITY APPLN. INFO.: JP 1994-329501 19941202

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1996

AN 1996-154704 JAPIO

AB PURPOSE: To maintain the antistatic and **antislip** properties on a wet floor surface by embedding a partial sole consisting of an admixture composed of **epoxylated** natural rubber on the ground contact surface of a main sole consisting of a high-polymer elastic material in such a manner that its rear surface is exposed.

CONSTITUTION: One among natural rubber, polyisobutylene rubber, styrene-butadiene copolymer rubber and **polybutadiene** rubber, one of **silica** based fillers of pH ≥ 8 or carbon black and further, an electrolyte surfactant, etc., are used as the high-polymer elastic material consisting the main sole 1. The intimate mixture composed of 100 pts.wt. blend of 70 to 100 pts.wt. **epoxylated** natural rubber and 30 to 0 pts.wt. diene based rubber exclusive of the **epoxylated** natural rubber, 10 to

30 pts.wt. reinforcing filler and 5 to 30 pts.wt. cold resistant plasticizer is used as the admixture of the **epoxylated** natural rubber of a partial sole 4. The **epoxylated** natural rubber having an epoxylation rate of 25 to 60% is used as the **epoxylated** natural rubber. The natural rubber, styrene-butadiene copolymer rubber, **polybutadiene** rubber, etc., are used as the diene based rubber.

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L11 ANSWER 12 OF 16 JAPIO (C) 2004 JPO on STN

ACCESSION NUMBER: 1995-166155 JAPIO

TITLE: PRODUCTION OF **NON-SLIP**
MATERIAL

INVENTOR: KONERII ROBAATO FUREDERITSUKU

PATENT ASSIGNEE(S): KOKUSAI GIJUTSU BOEKI KK

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 07166155	A	19950627	Heisei	C09K003-14

APPLICATION INFORMATION

STN FORMAT: JP 1994-220814 19940824

ORIGINAL: JP06220814 Heisei

PRIORITY APPLN. INFO.: JP 1994-220814 19940824

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1995

AN 1995-166155 JAPIO

AB PURPOSE: To obtain a **non-slip** material

presenting viscous liquid, gel or thixotropic mixture, suitable for **shoes**, etc., by dispersing, in a mixer, a specific discontinuous solid in a continuous phase obtained by dispersing e.g. a synthetic rubber in an organic solvent.

CONSTITUTION: An organic solid polymer such as a rubber or plastic material is intimately mixed with an inorganic abrasive solid such as **corundum**, carborundum, **silica** or sand by a powdering means such as a hammer mill or grinder to envelop the inorganic abrasive solid in the organic solid polymer. The resultant mixture is ground into finely particulate discontinuous solid 12. In a separate operation, an organic polymer such as a synthetic rubber, butadiene/styrene copolymer, butadiene/styrene/**acrylonitrile** copolymer or polychloroisoprene is dispersed in an organic solvent such as an aromatic solvent or chlorohydrocarbon to form a continuous phase. Next, the aforementioned discontinuous solid 12 is dispersed in the continuous phase 11 in a mixer to obtain the aimed **non-slip** material.

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L11 ANSWER 13 OF 16 JAPIO (C) 2004 JPO on STN
 ACCESSION NUMBER: 1995-001920 JAPIO
 TITLE: **TIRE SKID PREVENTING MEMBER, METHOD OF FORMING SLIP PREVENTING TIRE AND TREAD SURFACE THEREOF, AND MANUFACTURE OF ANTISKID TIRE**
 INVENTOR: WATANABE SEIICHI
 PATENT ASSIGNEE(S): WATANABE SEIICHI
 PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 07001920	A	19950106	Heisei	B60C011-14

APPLICATION INFORMATION

STN FORMAT: JP 1994-63476 19940331
 ORIGINAL: JP06063476 Heisei
 PRIORITY APPLN. INFO.: JP 1993-80840 19930407
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1995

AN 1995-001920 JAPIO

AB PURPOSE: To provide a skid preventing member excellent in the skid preventing function by projecting on the tread surface of a **tire** a pin-shaped body where hard fine materials such as sand, ceramics particles and fiber reinforced resin particles and appropriate rubber material and silicon resin are mixed.
 CONSTITUTION: Sand or ceramics particles (**alumina** base) and the adhesive (**epoxy** base, phenol base, rubber base, etc.) are blended and mixed together, and when the adhesive becomes semi-solidified condition, the natural rubber or the synthetic rubber, e.g. diene-base synthetic rubber, isoprene-base synthetic rubber, or the mixture thereof is blended, and **silicone**-base resin (**silicone** rubber) is blended at appropriate ratio to form pin-shaped bodies 2. The pin-shaped bodies are buried and fixed in holes 3 formed in the tread surface 6 of the **tire** 1 (where the burying and fixing method is arbitrary) to form the **tire** 1. The blending ratio of sand, the adhesive, and the **silicone** rubber to the synthetic rubber is abt. 20-30g, abt. 10g, and abt. 10g respectively to 100g of synthetic rubber.

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L11 ANSWER 14 OF 16 JAPIO (C) 2004 JPO on STN
 ACCESSION NUMBER: 1993-222247 JAPIO
 TITLE: COMPOSITE PARTICLE AND RUBBER COMPOSITION AND **TIRE BLENDING THE SAME PARTICLE**
 INVENTOR: ONOZATO TSUTOMU; MOJI KOUSHIROU
 PATENT ASSIGNEE(S): BRIDGESTONE CORP

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 05222247	A	19930831	Heisei	C08L021-00

APPLICATION INFORMATION

STN FORMAT: JP 1992-59812 19920214
 ORIGINAL: JP04059812 Heisei
 PRIORITY APPLN. INFO.: JP 1992-59812 19920214
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1993

AN 1993-222247 JAPIO

AB PURPOSE: To obtain composite particles excellent in adhesion to rubbers and useful for **preventing** cars from **slipping** on the road surface covered with ice and snow by embedding or fixing particles bondable to rubbers to the surface of substrate particles.CONSTITUTION: A solid organic substance such as a hot-melt based adhesive bondable to a rubber is applied to the surface of substrate particles of wood, **epoxy resin, silica**, etc., whose hardness is >=70 (in 250-50 μ m average particle diameter), expressed in terms of shore D scale and particles of **silica**, glass, etc., preferably of 1/1000 to 1/10 based on these substrate particles are embedded and fixed thereon to provide the objective composite particle.

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L11 ANSWER 15 OF 16 JAPIO (C) 2004 JPO on STN

ACCESSION NUMBER: 1991-188138 JAPIO

TITLE: RUBBER COMPOSITION FOR TIRE
SLIP PREVENTING APPARATUS AND
TIRE SLIP PREVENTING
 APPARATUS

INVENTOR: SAITO TAKAOMI

PATENT ASSIGNEE(S): NIPPON ZEON CO LTD

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 03188138	A	19910816	Heisei	C08L009-02

APPLICATION INFORMATION

STN FORMAT: JP 1990-222009 19900823
 ORIGINAL: JP02222009 Heisei
 PRIORITY APPLN. INFO.: JP 1989-241146 19890918
 SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1991

AN 1991-188138 JAPIO

AB PURPOSE: To improve the strengths, elasticity, durability, high load bearing capacity, colorability, etc., by compounding a specific copolymer rubber, zinc **methacrylate**, and an org. peroxide.

CONSTITUTION: By hydrogenating conjugated diene units of a copolymer rubber prep'd. from an ethylenically unsatd. nitrile and a conjugated diene, a copolymer rubber contg. 20-60wt.% nitrile units and 30wt.% or less diene units is obtd. Separately, by reacting one mol of **methacrylic** acid with 0.5-3.2mol of a zinc compd. and removing coarse particles from the reaction product, zinc **methacrylate** contg. 5wt.% or lower coarse particles with particle diameters of 20 μ m or higher is prep'd. 100 pts.wt. resulting rubber is compounded with 10-100 pts.wt. zinc **methacrylate** 0.2-10 pts.wt. org. peroxide, and, if necessary, a reinforcement such as **silica**, a colorant, a crosslinking aid, a plasticizer, a stabilizer, etc., giving the title compsn. which, when vulcanized, exhibits a modulus at 100% elongation of 50kg/cm² or higher.

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L11 ANSWER 16 OF 16 JAPIO (C) 2004 JPO on STN

ACCESSION NUMBER: 1989-262210 JAPIO

TITLE: **ANTISLIPPING DEVICE FOR TIRE**

INVENTOR: AKITSU YASUO; KONDO KUNIHARU

PATENT ASSIGNEE(S): NGK INSULATORS LTD

PATENT INFORMATION:

PATENT NO	KIND	DATE	ERA	MAIN IPC
JP 01262210	A	19891019	Heisei	B60C027-16

APPLICATION INFORMATION

STN FORMAT: JP 1988-89577 19880412

ORIGINAL: JP63089577 Showa

PRIORITY APPLN. INFO.: JP 1988-89577 19880412

SOURCE: PATENT ABSTRACTS OF JAPAN (CD-ROM), Unexamined Applications, Vol. 1989

AN 1989-262210 JAPIO

AB PURPOSE: To improve a wear resistance and an **antislipping** effect by fitting a ceramic spike to the tip of the metal made shank planted on the main body of a net type **tire** chain in the title device for vehicle.

CONSTITUTION: A ceramic spike 3 is fitted by interposing an elastic body 4 to the expanding part 2a of the tip of the metal made shank 2 planted on the main body 1 of a net type **tire** chain. This ceramic spike 3 is formed by an **alumina**, zirconia, etc. and the elastic body 4 is formed by a **polyurethane** resin, etc. of good cold and heat resistance, fatigue resistance, vibration

absorption, weather resistance and durability. The wear resistance and **antislipping** effect can be improved with this structure.

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